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MONTANA

DROUGHT

CONTINGENCY

PLAN

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Revised

JULY 1988

MONTANA DISASTER AND EMERGENCY SERVICES DIVISION

MAR 8 - 1989

TED SCHWINDEN
GOVERNOR

State of Montana
Office of the Governor
Helena 59620

DATE: August 23, 1988

TO: DEPARTMENT DIRECTORS

SUBJECT: MONTANA DROUGHT CONTINGENCY PLAN

Pursuant to authority contained in Title 10, Chapter 3, Montana Code Annotated, I hereby adopt this as the official Montana Drought Contingency Plan and direct all State departments to cooperate fully in the implementation of this plan.

This Plan identifies and assigns responsibilities to State departments in assessment of and response to the effects of drought.

Please review the Plan annually and update your department annex to ensure coordinated State response.

Sincerely,

Ted Schwinden

TED SCHWINDEN
Governor

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DEPARTMENT SIGN-OFF SHEET

I acknowledge, by my signature, that I or my representative, have read the Montana Drought Contingency Plan and agree to fulfill the role and responsibilities assigned to my department.

DEPARTMENT OF AGRICULTURE

Signature

Director — 9-19-88
Title — Date

DEPARTMENT OF COMMERCE

Keith L. Colbo
Signature

Director — 9-19-88
Title — Date

DEPARTMENT OF FISH, WILDLIFE AND PARKS

Signature

Director — 10-3-88
Title — Date

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

Signature

Director — 9/19/88
Title — Date

DEPARTMENT OF LIVESTOCK

Les Graham
Signature

Executive Secretary — 9-19-88
Title — Date

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

Larry Fasbender
Signature

Director — 10-3-88
Title — Date

DEPARTMENT OF STATE LANDS

Signature

Commissioner — 9-19-88
Title — Date

DEPARTMENT OF MILITARY AFFAIRS

Signature

Adjutant General — 9-12-88
Title — Date

DISASTER AND EMERGENCY SERVICES
DIVISION

George M. McCoy
Signature

Administrator 8/23/88
Title Date

DEPARTMENT SIGN-OFF SHEET

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DEPARTMENT OF AGRICULTURE

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DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

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DEPARTMENT OF LIVESTOCK

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DEPARTMENT OF MILITARY AFFAIRS

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Signature

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DISASTER AND EMERGENCY SERVICES
DIVISION

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Signature

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Title Date

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I. PURPOSE:

The purpose of this Plan is to provide an effective and systematic means for the State of Montana to deal with emergency drought problems which may occur over the short or long term.

II. DEFINITION:

There are many definitions of drought. One, it seems, for every document written on the subject. For the purposes of this plan; drought is an extended period of drying which causes damage to crops and other ground cover, decreased stream flow, depletion of subsoil moisture, a decreased level of groundwater and which has societal and economic impact on the people of Montana.

III. BACKGROUND OF DROUGHT RESPONSE PLANNING IN MONTANA:

The drought of the 1930's was exacerbated by poor farming techniques, low market prices and a depressed economy. Impacts on Montana and across much of the Great Plains were severe; population migration away from farming was an important consequence. A variety of adjustments ensured: improved agriculture management, the establishment of insurance programs, liberalization of credit, and diversification of the regional economy. These adjustments moderated the drought of the early 1950's; impacts were much less severe although climatological conditions were not that different from those of the dust bowl era.

CONCLUSIONS FROM PAST DROUGHT EFFORTS:

The 1976-77 drought brought increased awareness, at the State level, of the complexities involved in drought response. A group of staff mem-

bers from select State Agencies was formed to discuss and evaluate the problems associated with drought and to identify possible solutions to these problems.

The most severe issue identified by this group was the lack of impact State Government can have on drought. Despite conservation measures, a drought will continue unless there is increased rain or snowfall to provide moisture.

Additional difficulties lie in the area of drought detection. By the time drought is detected, the opportunity for many mitigation efforts is past.

Finally, as problems and local needs become more serious, the need for better management and integration of solutions intensifies.

IV. SITUATION:

In recent years, Montana has experienced serious and costly water shortages. These shortages have been the result of changing conditions in water supply and demand. An imbalance between supply and demand has developed because of Montana's relatively arid climate and growing population. As population continues to increase and as climate and conservation practices fluctuate, a temporary reduction in water supply can be highly disruptive in both urban and rural environments.

When drought occurs, the State is affected by a variety of complex problems, which, if identified and evaluated, can be dealt with in an organized and cost-efficient way. The most significant impacts that typically confront the State are related to such water intensive activities as: agriculture, wildfire protection, municipal water usage,

commerce, tourism and wildlife preservation. A reduction of electric power generation and water quality deterioration are also potential problems. The economy of the State or geographic sectors of the State have been and can be seriously depressed.

Since Montana's population and water usage is continuing to grow, demand for water is rising at a steady rate. Available supplies have also increased over the years through a variety of structural (dams) and non-structural (conservation) means, but the State's ability to create new levels of supply is marginal. In recent years, demands on water have been increasing faster than supplies, so that tolerance to deal with water shortages is diminishing. The balance between supply and demand is likely to be disrupted more and more frequently, and in the future, water shortages are likely to be more frequent and costly.

A systematic and timely application of limited resources, when utilized on the basis of a clear understanding of existing or potential impacts, can reduce drought effects. Should drought intensify to the point where broad scale impacts exceed State and local response capabilities, an existing and effective State program for the mitigation of drought impacts could facilitate a request for federal assistance, by showing State efforts in addressing this problem.

V. DEVELOPMENT OF A STATE RESPONSE PLAN:

In developing a drought response plan, it is necessary to design a system that avoids past problem areas, reflects needs that are pertinent to contemporary and future conditions, and provide effective management of drought response over the long run. This system should incorporate past lessons learned and allow responders to take definitive action. The

system should also be flexible enough to make adjustments to new or unexpected impacts. This system should be able to cope with either worsening con-ditions facing an unaware public or intense pressures emerging from a public sense of urgency or frustration. Finally, the system must have a capability to mobilize actions and resources or to monitor changing conditions. The system as set down in a drought response plan should be capable of changing its character as water shortage conditions improve or worsen.

In order to develop a drought plan responsive to statewide requirements, the current configuration and capabilities of State Government and the characteristics of past drought experiences, two separate elements have been established. These two elements - an assessment system and a response system - are managed by State Government but they also involve other public and private elements. Both systems have been derived from and remain subordinate to State Government. The systems are dependent on a data from many sources for assessment, responses of a variety of agencies and organizations rely on the generation of accurate information. In the next pages, each system is described more fully.

VI. MONTANA DISASTER ADVISORY COUNCIL:

The Montana Disaster Advisory Council consists of senior management representatives from agencies in State Government, chaired by a representative of the Governor. Other participants or ex-officio members may be designated by the Governor as required. When activated, and at the request of the Governor, this group will carry out the following tasks:

- Review Impact Statements of unmet needs to recognize and identify alternate choices for response.
- Develop, coordinate, and recommend solutions to problems involving:
    - o Executive Branch actions, to include interdepartmental or outside support (possible Federal Disaster Declaration). This could also include recommending the appointment of a departmental staff position(s) or field representative(s).
    - o Uses of relief activities and funds.
    - o State legislation actions, to include requests for funding.
    - o Program implementation, monitoring and approval.
- Ensure inter-agency coordination (e.g., media releases).
- Determine when drought intensity has receded to the point that there is no longer a need for a disaster designation.
- Provide information to the Drought Task Force regarding drought severity.

DROUGHT TASK FORCE. The Drought Task Force consists of representatives of public/private sector organizations whose membership may be impacted by the effects of drought.

The Drought Task Force is chaired by a member elected annually by the task force. This member will serve as a representative to the Montana Disaster Advisory Council.

When activated by the Montana Disaster Advisory Council, the Drought Task Force will carry out the following tasks:

- Offer suggestions to the Montana Disaster Advisory Council for policy or program changes to better implement drought mitigation, whenever possible.
- Inform the general membership of organizations represented on the Drought Task Force of drought severity and steps that may be taken to mitigate the effects of drought. This includes providing information on Disaster Advisory Council actions.
- Support statewide water conservation efforts through organizational forums available to task force members.
- Assist the Montana Disaster Advisory Council in the assessment of drought impacts on private industries.

VII. EXECUTION OF THE MONTANA DROUGHT PLAN:

A. **CONCEPT.** To enable Montana's State government to deal with the complexities of emergency drought response management, an assessment system has been established which is separate from the response system. Assessment and response, working in tandem, support government actions. The assessment system utilizes a broad

range of information sources, gathers and evaluates data, and provides for the delineation of the problem areas which cannot be met locally. The response system deals with those current and unmet needs that fall within the State's capabilities.

To deal with unusually complex emergency problems the Montana Disaster Advisory Council, comprised of representatives of State agencies, has been established. This group provides recommendations for further action to the Governor. If unmet needs become excessive or extraordinary, recommendations are made to the Governor for State legislative or federal assistance.

B. **ASSESSMENT SYSTEM.** The assessment system has been designed to function as follows:

- This system is composed of designated agencies which can rapidly develop and process assessments for response agencies and governmental leadership.
- The agencies expedite the processing of water availability and impact information (i.e., they gather and disseminate this information). They ensure expeditious reporting to agency leadership, to the response agencies of State Government, and to the Montana Disaster Advisory Council. The general rule for these agencies is to more clearly delineate problem areas (impacts) which generate needs that cannot be met locally and should therefore be responded to by the State. These agencies are capable of assessing the range of needs which can result from drought.

If new problem areas arise, pertinent agencies will be designated to carry out assessment.

C. **THE RESPONSE SYSTEM.** Since response to drought is at best a complex, broad-scale, and somewhat ambiguous problem, specific action from State government must be geared to specifically identfied impacts. As impacts are identified and assessed, these impacts are reported to the concerned department of State Government, as well as to the Montana Disaster Advisory Council (for transmission to the Governor).

Initially, when a department receives an impact assessment that requires a response, this action is taken through existing programs according to established departmental criteria. State action (still within established departmental channels) is taken when local capabilities cannot cope with existing or growing needs. Response consists of any action taken to solve a given drought problem, from media announcements, to funding on-site assistance, or to allocation of other available resources.

The department or agency most concerned with a particular problem is assigned to act as lead agency in resolving that problem, and to enlist the cooperation of, and provide direction to, other agencies which should be involved. Lead agencies concerned with drought problem areas have been identified as follows: Office of The Governor; Department of Agriculture; Department of Commerce; Department of Fish, Wildlife and Parks; Department of Health and Environmental Sciences: Department of Livestock;

Department of Natural Resources and Conservation; Department of State Lands; and Disaster and Emergency Services Division.

This response system is based upon the existing statutory authority of State Government agencies, and it is distinguished from assessment which can be generated through a variety of means and sources. Thus, the response system within any department is monitored by the departmental drought coordinator and controlled by the senior level department management.

During drought response, lead agencies are responsible for making news releases concerning departmental programs. Authority for releases covering overall status and direction of drought response will be retained by the Officer of the Governor.

Later, if drought conditions worsen, if agencies become overburdened or if emergency conditions threaten, the Montana Disaster Advisory Council will act in concert with or through a department(s) and will: review unmet needs identified by lead agencies, identify and recommend means to meet those needs and ensure interagency coordination.

Occasionally this response system may require limited expansion beyond the normal processes of government. Should a given problem, or set of problems, become unusually complicated and extensive, departments may require additional support. This may be necessary when there is a continuous flow of information or continuous public inquiries. Creation of a full-time position or activation of a publicly announced telephone number may resolve this communication overload.

The person(s) occupying this position would answer public queries and refer requests to responsible officials. Similarly, if either a geographic area or political subdivision of the State develops a need for day-to-day coordination between a variety of programs, then a State liaison officer may be designated to local government. In this situation the liaison officer will respond to guidance provided by the Montana Disaster Advisory Council. The Montana Disaster Advisory Council will be responsible to recommend to the Governor the establishment of positions for additional departmental staff or liaison officers.

D. **PLAN ACTIVATION CRITERIA.**

In general, assessment will be produced continually through a drought period, but responses will be generated when impacts and needs can be identified and evaluated. Specific activation conditions for both assessment and response system are shown below.

When drought begins to emerge, the assessment system will be activated by the Governor. When development of drought on any of the States main river basins is noted (-2.0 on the Palmer Index[1]), the Montana Disaster Advisory Council will recommend that the Governor issue a notification of the potential drought emergency. The response system functions through established channels until

[1]The Palmer Index is not a definitive indicator. Certain areas, such as the agricultural industry may show drought impact before a certain severity indicator level is reached. Other areas, such as wildlife may show impact long after drought recedes.

the Governor activates the Montana Disaster Advisory Council. The Montana Disaster Advisory Council is activated when the drought indicators show the existence of emergency conditions or when significant unmet needs exist that cannot be dealt with through normal channels.

The Drought Contingency Plan will be activated on the basis of the Palmer Drought Index[2]. This index will be published monthly on a year-around basis. The index is shown in Figure 1 below:

FIGURE 1[2]

CLASSES FOR WET AND DRY PERIODS

PALMER INDEX MEASURES	CLASS
4.00 or more	Extremely wet
3.00 to 3.99	Very wet
2.00 to 2.99	Moderately wet
1.00 to 1.99	Slightly wet
.50 to .99	Incipient wet spell
.49 to -.49	Near normal
-.50 to -.99	Incipient drought
-1.00 to -1.99	Mild drought
-2.00 to -2.99	Moderate drought
-3.00 to -3.99	Severe drought
-4.00 or less	Extreme drought

[2]The Montana Disaster Advisory Council will utilize various drought assessment information, including the Palmer Drought Index produced by the National Weather Service. An explanation of the Palmer Drought Index appears in Appendix A.

This Drought Index will be utilized to activate various levels of the drought response plan. Important drought plan trigger points are related to the Drought Index:

- The Montana Disaster Advisory Council is advised at (-1) or before a moderate scale drought has fully developed.
- When a moderate drought develops (-2) other impact assessment areas begin to function and detailed assessments are developed. Also, at this level, State departments take programmatic responses as required.
- When the Montana Disaster Advisory Council determines that response problems require extraordinary management (Approximately -3), or upon request of a lead agency, the Montana Drought Contingency Plan will be activated.

VIII. COORDINATING INSTRUCTIONS:

All Drought Assessment and Response Agencies:

- Local governments and public associations assist State Agencies in the identification and assessment of drought impacts, respond within their capabilities and request State assistance when needs cannot be met locally.
- Expenses to support activities are subject to normal fiscal constraints to respective agencies. Requests for special funding will be presented to the Montana Disaster Advisory Council, for recommendation to the Governor.
- Meeting frequency of the Montana Disaster Advisory Council will be determined by the Council moderator so as to keep members fully informed of assessment and response activities.

- Frequency of situation reports, assessments, and inter-agency response actions will be recommended to the Governor by the Montana Disaster Advisory Council.
- Lead Response Agency representatives are authorized to respond to questions from the media or issue news releases concerning their specific areas of responsibility.
- Questions of potential conflict should be referred to the Office of The Governor.
- Major policy announcements on overall drought assessment and response program status will be made by the Office of The Governor.
- When a drought disaster or emergency is Presidentially declared for Montana, the Administrator of Montana Disaster and Emergency Services will be the State Coordinating Officer.

IX. IMPLEMENTATION:

Since two separate systems comprise the overall Drought Plan, tasks to be carried out by State Agencies are listed below under both systems - **ASSESSMENT** and **RESPONSE.**

ASSESSMENT.

All Departments of State Government (as requested by the Governor) will:

- Designate a Departmental Drought Coordinator to facilitate the flow of drought information in that department.
- Provide personnel and/or resources to respond to or provide information on drought.

- Review progress of impact assessment to include comprehensiveness, frequency, and adequacy of report and procedures.
- Aggregate and develop assessments, projections, trends and make timely reports to the Montana Disaster Advisory Council.
- Ensure inter-government coordination by working with and providing requested information to other agencies (including federal agencies).
- Make recommendations to the Montana Disaster Advisory Council, and offer alternative solutions to drought problems.

Lead Agencies will:

General Tasks (all lead agencies):

- Identify potential and existing drought related problems
- Further define and assess societal impacts, severity, loss and costs; evaluate State and local capacity for response; determine residual needs within the agencies' area of expertise.
- Report findings to the Montana Disaster Advisory Council.

Specific Tasks:

Office of the Governor:

- Convene, chair, and provide staff support for meetings of the Montana Disaster Advisory Council.
- Request assessment assistance from State agencies, as needed.

Agriculture:

- Emphasize soil erosion, crop loss, insect and pest problems.
- Identify areas with decreased availability of credit.

Commerce:

- Emphasize loss of revenues, increase in unemployment, and decreases in tourism visitation levels and lodging receipts.
- Identify major commercial and industrial problem areas.

Fish, Wildlife and Parks:

- Determine potential problem areas and record losses of fish and wildlife where these can be documented.

Health and Environmental Sciences:

- Identify municipal water supply sources, such as reservoirs, direct stream flow, ground water.
- Assess the capability of community water supplies to withstand drought impact.
- Organize and initiate assessment of health impact areas.

Livestock:

- Emphasize livestock losses.
- Identify areas where feeding livestock presents potential problems.

Natural Resources and Conservation:

- Make assessment and projections (in comparison to the historical norm) on:
  - o Snowpack
  - o Soil moisture
  - o Reservoir levels
  - o Ground water levels
  - o Precipitation
  - o Temperatures
  - o Stream flows
- Select or develop specific formats for reporting of the above assessment and projection information on water availability.
- Determine requirements for routine and special reports
- Synthesize data to provide information on water availability/shortage estimates by river basin.
- Identify resource information gaps and make recommendations to address them.

State Lands:

- Identify high priority threats of wildfire.
- Emphasize fire protection capabilities, resources, outside sources of assistance.

Disaster and Emergency Services Division:

- Assist and coordinate assessment activities, as needed.

RESPONSE.

All Departments of State Government (as requested by the Governor) will:

- Address drought related problems through established program activities, and cooperate with lead Response Agencies.
- Take action within assigned sectors of responsibility to lessen the impact of the drought.
- Consider and recommend water conservation practices to lead agencies, and suggest methods for implementing these conservation practices.
- Review the progress of response activities to ensure comprehensiveness, frequency, and adequacy of reports and procedures, and to allow changes in response activities to more effectively deal with drought.
- Make timely reports to the Montana Disaster Advisory Council as requested by the Council moderator.
- Ensure inter-government coordination by providing requested assistance to other agencies (including federal agencies).
- Make recommendations to the Montana Disaster Advisory Council on areas needing response activities.

Lead Agencies will:

General Tasks (all lead agencies):

- Provide direction and integration of effort to all agencies concerned with drought response within assigned sector or responsibility using normal programs and resources available.

- Provide a senior level manager to the Montana Disaster Advisory Council when activated.
- Identify unmet needs resulting from drought impacts and responses, to the Montana Disaster Advisory Council.

Specific Tasks:

Office of The Governor:

- Moderate (chair) Montana Disaster Advisory Council.
- Request information from non-council agencies, when necessary.

Agriculture:

- Minimize drought impact on agriculture.
- Promote agricultural water conservation practices.
- Activate and promote economic assistance programs for agricultural producers.
- Promote safe application of herbicides and pesticides to prevent water contamination.

Commerce:

- Reduce drought impact on commerce and tourism, where possible.
- Promote water conservation practices.

Fish, Wildlife and Parks:

- Identify streams/basins where problems are likely to occur and monitor drought impact on

fish and wildlife wherever possible. (See list in Department Annex.)

- Work with junior water right holders to maintain instream flows on waters where the department has instream flow reservations. (See letters in Department Annex.)
- Implement program for increased protection of threatened populations and/or for greater public utilization of populations that are likely to be eliminated by drought conditions. (See copy of Commission action in Department Annex.)
- Request Department of Agriculture to advise persons applying herbicide and pesticides to be especially careful to avoid contamination of streams and lakes during drought.
- Inform public of drought effects and actions taken.

Health and Environmental Sciences:

- Minimize drought impact on Public Health.
- Ensure maintenance of safe municipal water systems.

Livestock:

- Minimize drought impact on livestock producers, when possible.
- Promote water conservation among livestock producers.

- Coordinate feed assistance with Department of Agriculture.

Natural Resources and Conservation:

- Implement procedures to minimize water shortages.
- Promote water conservation practices.

State Lands:

- Promote safe use of lands through fire safety programs.
- Implement programs to conserve water on State lands.
- Restrict fires permitted on State lands, when necessary.
- Minimize areas of wildfire impact.
- Implement closure of State lands, when necessary.

Disaster and Emergency Services Division:

- Coordinate response to high priority emergency situations, including federally declared disasters.

X. DROUGHT RELIEF PROGRAMS:

There are State and Federal programs that can provide relief from drought impacts. State programs for relief are few in number and limited in scope, while Federal programs are numerous and broad. All of these programs are dependent on annual funding appropriations which vary significantly from year-to-year. Therefore, the usefulness of these programs

at a particular point in time may be limited. However, as drought conditions intensify:

- funding priorities may be changed;
- appropriations may be upgraded; or
- initiatives may be established for new legislation.

Also, when drought occurs over multi-state regions the possibilities for new federal legislation or funding appropriations are significantly enhanced.

Normally, the President does not approve major emergency declarations for drought. However, when extremely serious events occur which are associated with drought, and which clearly over-extend the State's capacity for disaster relief, then such a declaration may be possible.

For more detailed information on existing State and Federal relief programs see Appendices B and C.

APPENDIX A

An Explanation of the Palmer Drought Severity Index

Generally speaking, the Palmer Drought Severity Index measures the moisture available in a particular ecosystem. Palmer said a great deal about drought, but mostly he talked about the relationships which moisture has in the greater scheme of things.

According to Palmer (1965), **"Drought means various things to various people, depending on their specific interest . . . each has a concern which depends on the effects of a fairly prolonged weather anomaly."**

"Drought can be considered as a strictly meteorological phenomenon. Within reasonable limits, time and space comparison of drought are possible."

"The concept is that the amount of precipitation required for near-normal operation of the established economy of an area during some stated period is dependent on the average climate of the area and on the prevailing meteorological conditions both during and preceding the month in question."[1]

Palmer discovered during his research that drought is not an independent phenomenon. Drought is a composite of several phenomena occurring in an area at one time. He also hypothesized that one could not develop an accurate understanding of an area without taking into account previously established patterns.

The phenomena Palmer determined were contributing factors to drought were: evapotranspiration; recharge; runoff; loss; precipitation; each of the previous factors when Climatically Appropriate For Existing Conditions (CAFEC);

climatic characteristics; precipitation excesses and deficiencies; and time. In the next paragraphs each of these factors are defined as used by Palmer.

Evapotranspiration is the loss of water from the soil by both evaporation and transpiration of plants. Transpiration is the way plants return water to the atmosphere by evaporation.

Recharge is the replacement of moisture in the soil. Recharge is largely seasonal and almost entirely dependent on precipitation. Most soils in Montana are recharged by winter snows, spring rains, and the intermittent showers during summer and autumn.

Runoff is excess moisture the soil cannot absorb. To understand runoff, picture a sponge. The sponge will absorb moisture to a certain point, but when water is added beyond that capacity, the sponge begins to drip. That drip is runoff or moisture in excess of capacity.

Loss refers to the quantity of moisture that leaves the soil above and beyond that which enters the soil. This concept is the basis of hydrologic accounting; 1 inch of moisture minus 2 inches of moisture = 1 inch of moisture loss.

Precipitation or actual precipitation is rain, snow, sleet, hail or any other moisture which falls to the ground in measurable quantities.

Climatically Appropriate For Existing Conditions (CAFEC) refers to the mean value of evapotranspiration, recharge, runoff, loss of precipitation. Palmer's research includes a large number of mathematical proofs which define his index, this phrase is Palmer's method of delineating a group of otherwise similar items.

Climatic characteristics refer to several factors according to Palmer. Normal precipitation and normal temperatures are the two main characteristics, and certainly the two characteristics for which there are long term records. Humidity, wind, barometric pressure and latitude are the other acknowledged climatic characteristics. The sum total of these factors over a long period produces an areas' climatic norms.

Precipitation excesses and deficiencies include both rain and snowfall above or below the long term averages.

Time in Palmer's study consists of standard twenty-four hour days, though most of his time periods are represented in months. The historical time compilation extends back to January 1887 for parts of Kansas, Palmer's main study area.

To combine these complex items Palmer created a method of hydrologic (or water) accounting. This method allowed the development of a procedure for computing the severity of drought and wet spells.

Palmer's Drought Index compares existing conditions with normal conditions in a specific area. So, information is only accurate for the specific area in which it was developed.

The scale on the Palmer Index runs from positive to negative. Positive numbers indicate that more than adequate moisture exists in the system. Negative numbers show a lack of moisture or an inadequate supply in the system. The scale for the Palmer Drought Severity Index is open ended. Though the deepest drought measure mentioned in Palmers' study was 6.20 on the Index, potentially the Index could go lower still with a longer or deeper drought.

One must realize that in different areas a number on Palmers' Index Scale means very different things. Areas which have received twenty inches of precipitation in a year could be in a drought period every bit as deep as an area that has received only three inches of precipitation, if both areas have received significantly less than normal precipitation for a long period of time.

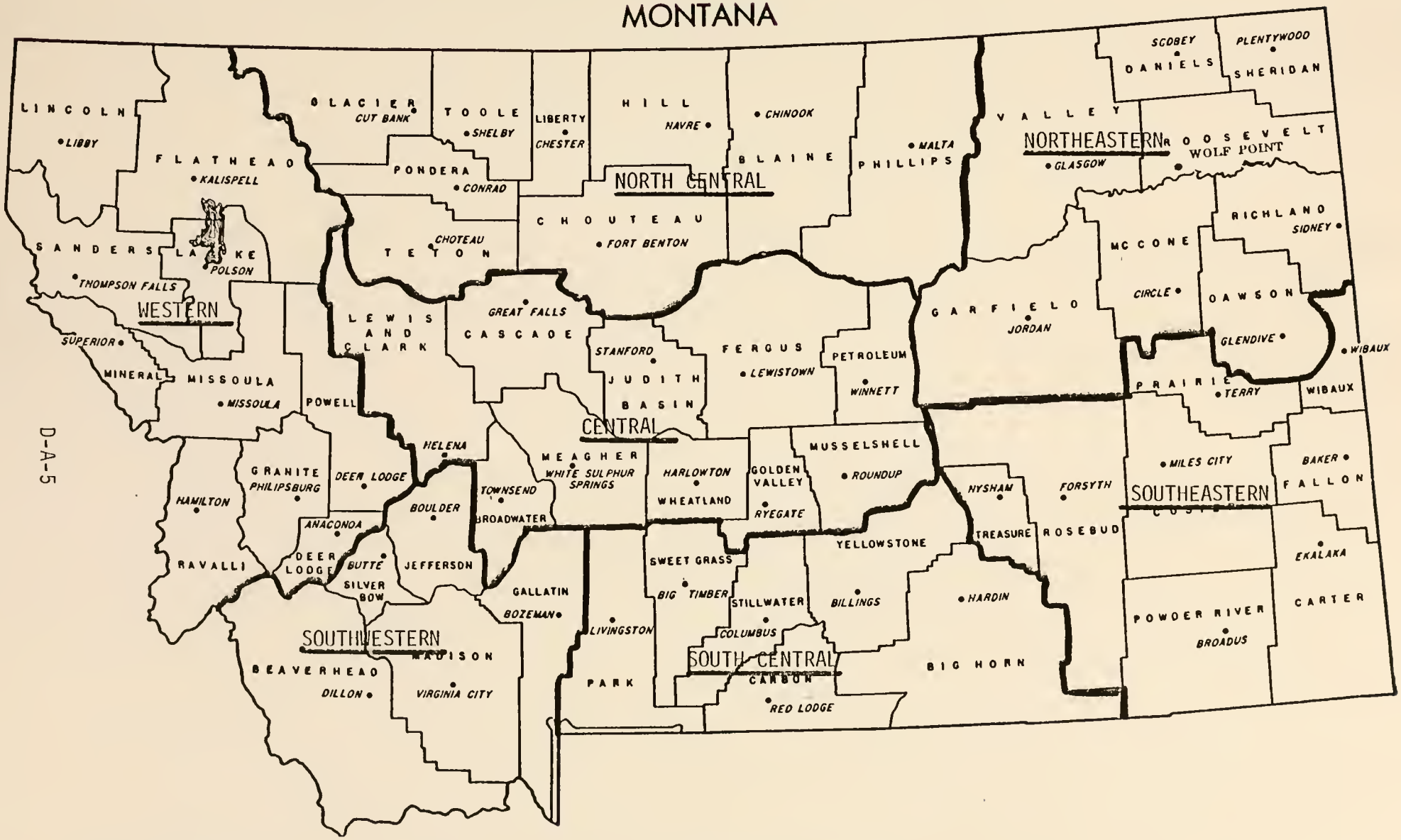
The Palmer Drought Severity Index is the most widely accepted method for defining drought in the United States. Other methods are used on a regional level, however, the Palmer Index is currently used by Montana State agencies and is therefore the best scale for use here.

In a study, "Meteorological Drought in Montana" (@ 1967) Marvin D. Magnuson, used the Palmer Index to define and express periods of drought in Montana. Magnuson's data covers the years 1931 - 1966. He also devised the climatic divisions for the State which are currently used by the National Weather Service (see Figure 1).

REFERENCES

[1] Palmer, W. C. **Meteorological Drought**. U.S. Weather Bureau, Research Paper No. 45. February 1945.

[2] Magnuson, Marvin D. **Meteorological Drought in Montana**. U.S. Department of Commerce, Environmental Science Services Administration, @ 1967.



D-A-5

No. 1052 — County Outline Map
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FIGURE 1. CLIMATIC DIVISIONS FOR MONTANA[2]

APPENDIX B

A listing of Montana State

Drought Assistance Programs

INFORMATION GUIDE

FOR

DROUGHT-RELATED INQUIRIES

STATE OF MONTANA

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This document was compiled at the request and with the assistance of the Montana Disaster Advisory Council, and through the efforts of the Offices of the Governor and Disaster and Emergency Services.

1.0 WATER QUALITY AND QUANTITY.

The Department of Health and Environmental Sciences (DHES) works with local officials, local health departments and other agencies to minimize the impact of drought on public health and to assure potable water in impacted areas. DHES can advise on alternate sources for obtaining water and on treatment alternatives to assure safe water.

Contacts:

Water Well Review and Approval - Dan Fraser, DHES, 444-2406.

Municipal Water Contamination - Dan Fraser, DHES, 444-2406.

Water Sample Testing - Dan Fraser, DHES, 444-2406.

"Boil Orders" - Dan Fraser, DHES, 444-2406.

Sewer System Problems and Discharge Permits - Fred Shewman and Kevin Keenan, DHES, 444-2406.

Toxic Algae Blooms - Loren Bahls and Erich Weber, DHES, 444-2406.

Inoculation/Immunization/Epidemic - Dr. Doug Abbott, DHES, 444-3444.

1.1 PUBLIC WATER SYSTEM/PRIVATE-DOMESTIC WELL-DRILLING PROCEDURES.

[**Note**: In an emergency situation, this procedure for public systems can be shortened. Call Dan Fraser, DHES, 444-2406.]

	Public Water Systems	Private Domestic Wells
1.	A professional engineer must draw design plans and write well specifications according to **Ten State Standards**.	Hire a geologist or licensed well driller to learn where and at what depth water can be found under the property. Locate well to avoid potential sources of contamination.
2.	These plans must be submitted to DHES for review and approval.	
3.	Specifications will indicate the quantity of water the well will draw. If less than 100 gal/minute go to **Step 6**,	

	Public Water Systems	Private Domestic Wells
	if greater than 100 gal/minute a Department of Natural Resources and Conservation (DNRC) **Beneficial Water Use Permit** (cost $50-$250, dependent on acre/ft. usage) must be obtained.	
4.	Public Notification of Intent must be published for two consecutive weeks.	
5.	Individuals whose wells might be affected by the new well must be notified.	
6.	Get bids from state-licensed water well contractors.	Get bids from state-licensed water well contractors.
7.	Hire contractors.	Hire contractors.
8.	Order specialized equipment for well completion.	
9.	Upon DHES approval, drill well.	Drill well.
10.	When completed, submit a certification by the engineer to DHES that the well was completed according to plan specifications.	File notice of completion (602) form ($10 fee) with DNRC.

1.2 **Water Development Emergency Funds**.

Administered by: Water Development Bureau (DNRC).

Purpose: Drought-related purposes of this fund include: a) support of water development projects in communities that face serious threat to public health or safety as the result of an emergency situation, and b) preservation of vegetation, water, soil, fish, wildlife, or other renewable resources from an imminent physical threat or during an emergency (not including fire or natural disasters adequately covered by other funding sources).

Funding: A total of $125,000 is available this biennium for emergency projects.

Special Notes: Emergency projects are defined as those projects which, if delayed until legislative approval can be obtained, will cause substantial damages or legal liability to the project sponsor. Applicants must demonstrate that funds cannot be obtained from other sources.

Contact: Caralee Cheney, Chief, Water Development Bureau, DNRC, 444-6687.

1.3 **Irrigation: Modification of Diversion Systems.**

In order to reach their water supply during periods of drought, irrigators may need to extend their diversion systems further into the river channel. In anticipation of this situation occurring more frequently this year, the following is a list of possible regulations that irrigators should be aware of should they need to modify their diversion systems.

A. **404 Permit or Section 10 Permit**:

Administered by: U.S. Army Corps of Engineers.

Purpose: To regulate the discharge of dredged or filled materials.

1. Under Section 404, Clean Water Act, 323.4(3), 33 CFR, on any Non-Section 10 Waters (see below), discharge of fill material associated with siphons, pumps, headgates, wingwalls, weirs, division structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are exempt and no Department of the Army permit is required.

2. On Section 10 waters (the mainstem Missouri, the mainstem Yellowstone, and the mainstem Kootenai, all of which are navigable rivers), a Section 10 permit may be required depending on the degree of alteration. Otherwise, the need for the permit may be waived, or a maintenance exemption may be granted.

Contact: Bob McInerney, Corps of Engineers, Helena, 444-6670.

B. **"310" Permit Required Under the Montana Natural Streambed and Land Preservation Act.**

Administered by: Local Conservation Districts.

Purpose: To regulate activities which could alter the natural state of river and stream beds and banks.

Special Notes: Any such activity should be brought to the immediate attention of the local Conservation Districts or the Department of Fish, Wildlife and Parks (DFWP) field offices (which must also review the plans) for a prompt determination of whether a 310 Permit is needed (regulation may vary by county).

Contacts: Local Conservation District Board. Other contacts include Al Wipperman, DFWP, Helena, 444-5686; and Ray Beck, DNRC, Helena, 444-6667.

C. **Exemption for Surface Water Quality Turbidity Standard (3A Permit).**

Administered by: DHES.

Purpose: To allow an activity to exceed water quality standards.

Special Notes: This authorization is handled as part of the "310" permitting process (see letter "B" above).

Contact: Ken Chrest, DHES, Helena, 444-2406.

D. **State Water Use Permit.**

Administered by: DNRC

Purpose: To authorize and record water uses throughout the State.

Special Notes: To maintain or rehabilitate an irrigation diversion system, the irrigator may not have to file for a change authorization. However, if the point of diversion place of use, purpose of use or place of storage will be different than that noted on the original water use permit or claimed existing water right, a change authorization may be necessary.

Contacts: DNRC Water Rights Bureau Field Office Managers or Ron Guse, DNRC, Helena, 444-6630.

[**Note**: DFWP acknowledges that irrigators have the right to make these changes under the emergency provisions of the streambank law. However, because of the impacts of these modifications (streambed destablization, etc.), DFWP encourages water users to anticipate low water conditions and obtain the necessary permits before entering stream channels.]

1.4 **Water Rights**.

As the effects of the drought on surface and ground water resources become more pronounced, an increase in water right conflicts can be expected. Appropriators should be aware of the options available to them in dealing with these conflicts. For example, cities and towns are given the power under 7-13-4405, MCA, to condemn other water rights to secure water for municipal and domestic water systems. In addition, appropriators should be aware that under certain conditions the district court has the power to appoint water commissioners to enforce water rights on drainages, for which a decree has been issued by a court of competent jurisdiction.

Information on the correct procedures to follow in pursuing these and other resolutions to water right concerns can be provided at DNRC Water Rights Bureau Field Offices in nine locations across the state. These offices and the counties covered by each are listed below.

Billings: Keith Kerbel, Field Manager
1537 Avenue D, Suite 105
Billings, MT 59102
657-2105
Counties: Big Horn, Carbon, Stillwater, Sweet Grass, Treasure and Yellowstone.

Bozeman: Scott Compton, Field Manager
1201 East Main
Bozeman, MT 59715
586-3136 or 586-3137
Counties: Gallatin, Madison and Park.

Glasgow:

Roy Jones, Field Managers
110 5th Street South, Room 106
Glasgow, MT 59230
228-2561 or 228-8706
Counties: Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan and Valley.

Havre:

Bob Larson, Field Manager
1708 West 2nd Street
Havre, MT 59501
265-5516 or 265-2225
Counties: Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton and Toole.

Helena:

T. J. Reynolds, Field Manager
1520 E. 6th Ave.
Helena, MT 59620-2301
444-6695
Counties: Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell and Silver Bow.

Kalispell:

Chuck Brasen, Field Manager
3220 Highway 93 South
Kalispell, MT 59901
752-2288 or 752-2843
Counties: Flathead, Lake, Lincoln, and Sanders.

Lewistown:

Sam Rodriguez, Field Manager
204 South Daws
Lewistown, MT 59457
538-7459 or 538-7012
Counties: Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum and Wheatland.

MIles City:

Walter Rolf, Field Manager
5 North Prairie
Miles City, MT 59301
232-6359
Counties: Carter, Custer, Fallon, Powder River, Prairie, Rosebud, and Wibaux.

Missoula: Mike McLane, Field Manager
Holiday Village Professional Offices, Suite 105
Missoula, MT 59801
721- 4284
Counties: Granite, Mineral, Missoula and Ravalli.

DFWP has instream flow water rights in portions of 12 "blue ribbon" trout streams (Big Spring Creek, Blackfoot River, North Fork of Flathead River, Gallatin River, West Fork of Gallatin River, Madison River, Missouri River, Rock Creek, Smith River, Yellowstone River, Middle Fork of Flathead and South Fork of Flathead). In addition, DFWP has an instream flow reservation in the Yellowstone River Basin. The Department notifies junior water right holders as stream flows approach the Department's instream flow right. At that time, junior right holders are requested to curtail their use of water during the drought period.

Water rights in the blue ribbon streams have 1970 and 1971 priority dates and are in various stages of the water adjudication process. Instream flow reservations in the Yellowstone River Basin have a 1978 priority date. In streams where the Department has no instream flow rights, it is not in a position to affect streamflows. Irrigators and other senior water right holders may have rights to all remaining water. In these situations, the Department is appealing to water right holders to leave sufficient water in the stream to flow between holes in an effort to sustain fish life.

Contacts: Pat Graham, DFWP, 444-2449; Larry Peterman, DFWP, 444-3183, Liter Spence, DFWP, 444-3888.

2.0 FISHERIES RESOURCES.

The Fish and Game Commission has granted the Director the authority to restrict or liberalize fishing regulations depending on water conditions during the drought. In streams managed for wild or natural fish populations, the department may recommend closing the fishing season when it appears conditions are becoming stressful to fish because of high temperatures, crowding and vulnerability. In waters managed for hatchery trout (primarily small reservoirs), the department may recommend more liberal regulations if it becomes apparent the fish will die. Waters stocked with hatchery trout can be replenished the following year and will

begin to produce a fishery a year later. However, wild fish populations must be given every opportunity to survive the drought. DFWP has asked the Department of Agriculture to advise people applying herbicides and pesticides near surface water to be extremely careful to avoid contamination of lakes and streams. Very small amounts of chemicals can trigger mortalities in populations already stressed by abnormally low flows and high temperatures.

Contacts:

Fish Management and Regulations - Steve McMullin, DFWP, 444-5686 and Pat Graham, DFWP, 444-2449.

Fish Kills - Glenn Phillips, DFWP, 444-5336 and Steve McMullin, DFWP, 444-5686.

3.0 WILDLIFE.

Drought conditions primarily impact wildlife by forcing them to seek riparian and irrigated pastures earlier in the summer than normal and reducing forage supplies on ranges that will be key to survival the following winter. The primary means of the DFWP to minimize these effects would be directed toward activities of hunters. Wildlife damage to livestock forage supplies (haystacks, etc.) or to crops suffering from drought may be lessened by implementation of specifically conducted hunting seasons. Trapping and removing wildlife from problem areas may not be realistic because there would probably not be any areas without similar problems in which to put them. Since a reduction in forage is likely on winter ranges, feeding wildlife during the drought to alleviate drought-related stress is not advised. Carrying more animals through the drought period would only lead to increased mortality in the succeeding winter due to reduced forage supplies.

Contacts: Arnold Olsen or Don Childress, DFWP, 444-2612.

4.0 AGRICULTURE.

For drought-related agriculture questions, see the following contacts. Unless otherwise designated, all contacts are in the Montana Department of Agriculture.

Contacts:

Fertilizer Use - Ray Bjornson, County Extension Agent, 444-3730, includes information on feed, nursery, seed and horticulture.

Pesticide Use - Gary Gingery, 444-2944, includes information on weeds and insect pests.

Relief Programs:

Federal Crop Insurance - Ralph Peck, 444-3144.

Farm Home - State Crop Insurance - Agriculture Credit-Other Financial Considerations - Mike Murphy, 444-2402.

Land Use/"Sodbusting" - Ray Beck, DNRC, 444-6667.

General Drought Questions - Keith Kelly, 444-3144; Ralph Peck, 444-3144.

County Agriculture Disaster Designation - Mike Pichette, Governor's Office, 444-3111.

Computerized Agricultural Marketing Bulletin Board - Moe Wosepka, 444-2402.

The Montana Department of Agriculture Electronic Bulletin Board provides 24 hour access to stream flow, snow pack, weather and other agriculture related information. The system requires access by a computer with a phone modem set to the following protocol:

Databits	- 8
Parity	- None
Stop Bits	- 1
Duplex	- Full
Emulation	- None

Telephone Number (406) 444-5411

5.0 COMMERCE.

The Department of Commerce (DOC) is concerned primarily with the impact of the drought on tourism, the agriculture economy and on mining, manufacturing and other industry. The Department monitors the impact on these sectors of the economy by assessing tourism visitation levels, changes in personal income, wages and salaries for all affected areas.

Contacts:

General Drought Concerns - Tom Clinch, 444-3494; Andy Poole, 444-3494.

Tourism Impact - Tom Clinch, 444-3494; John Wilson, 444-2654.

Business and Industrial Impact - Tom Clinch, 444-3494; Andy Poole, 444-3494.

Agricultural Economy-Measures of Decline - Tom Clinch, 444-3494; Phil Brooks, 444-2036.

6.0 ELECTRICITY SUPPLIES.

While there is a potential for significant reduction in the availability of hydropower, current supplies of electricity in Montana are sufficient to meet present needs. In addition to its hydro facilities, MPC has 700 MW of coal-fired capacity in four plants (Corette, Colstrip 1,2 and 3). Depending on hourly loads, availability of the four plants and the market for surplus power sales and purchases, MPC can supply its system needs with thermal generation and still make surplus sales. In addition, half of MPC's 210 MW share of Colstrip 4 is unsold and may be available in state or out-of-state to make up for reduced hydropower. Other suppliers of electrical energy in Montana are the Western Area Power Administration (WAPA) and the Bonneville Power Administration (BPA), both of which are in pretty good shape.

There appears to be no reason to be concerned at the present time with insufficient supplies of electricity to meet all firm loads in Montana. The major effect of a drought on electricity supplies at present is the worsening of MPC's position in the non-firm short-term energy export market. Since electric rates are set on an average year basis, the financial impact will probably not be felt by ratepayers. If a drought continues, WAPA customers will be paying for higher than usual power purchases next winter. The top quartile of power used by the aluminum industry is interruptable by BPA in a drought. However, the price paid for power by the smelters varies with the price of aluminum. Depending on conditions in the aluminum market, it might pay for BPA to buy power in the sport market rather than interrupting power deliveries to the smelters. Further, BPA's loss of secondary revenue from non-firm power sales to California during a drought will eventually result in a need for greater revenues from its firm power customers.

Contact: Larry Nordell, DNRC, 444-6757.

7.0 FIRE.

Fire danger ranges from high to extreme statewide. Weather forecasts call for continued hot and dry weather. Campfires on state lands are restricted to developed campgrounds. All-out closure of access to state lands would require a proclamation by the Governor. Counties can request that state lands within their borders be closed.

Contacts:

Woodcutting Permits - Area Department of State Lands (DSL) Office, Missoula Office.

Fire Permits - Area DSL Office, Local Fire Warden.

Forest Access - Area DSL Office.

Identify Jurisdiction - Area DSL Office, BLM Map of Area.

General Drought Questions - Dennis Hemmer, 444-2074; Randy Mosley, 444-2074.

DSL Fire Telephone Numbers:	Central Land Office
Helena Fire Number	444-4242 - DSL Fire Number
Helena Unit	444-3633 - DSL Fire Number
Lewis and Clark County	442-7880 - Sheriff's Office
Jefferson County (S. End)	225-3323 - Sheriff's Office
Jefferson County (N. End)	933-8331 - Sheriff's Office
Broadwater County	266-3441 - Sheriff's Office
Cascade County	761-3200 - Sheriff's Office
Meagher County	547-3397 - Sheriff's Office
Powell County	846-2711 - Sheriff's Office
Bozeman Unit	586-5243 - DSL Fire Number
Gallatin County	585-1475 - Sheriff's Office
Park County	222-2281 - Sheriff's Office
	222-2050 - Dispatch Center
Beaverhead County	683-2383 - Sheriff's Office
Madison County	843-5301 - Sheriff's Office
Conrad Unit	278-7869 - DSL Fire Number
Pondera County	
Conrad and Brady	278-7681 - Sheriff's Office
	278-7601 - Sheriff's Office
Dupuyer	472-3222 - Fire Department
Valier	279-3500 - Fire Department
Teton County	466-5781 - Sheriff's Office
Glacier County	873-2711 - Sheriff's Office
BIA Police	338-4555
Toole County	434-5585 - Sheriff's Office

8.0 WATER CONSERVATION.

A. The Soil Conservation Service (SCS) offers technical assistance on irrigation water management for individual operators throughout the state, including analyses of how both structural improvements (such as installation of gated pipe) and operational improvements (like irrigation scheduling) can extend limited water supplies. Persons interested in this assistance should contact the SCS office in their conservation district.

B. The Cooperative Extension Service at Montana State University in Bozeman has several publications which deal with agricultural water conservation. These are:

Irrigating with Limited Water Supplies. Circular 1262, June, 1981.

Scheduling Irrigation with Evaporation Pans. Bulletin 1262, February, 1982.

Both deal principally with improving the timing of irrigation applications so that less water can be used without adversely affecting crop yields. In addition, the Extension Service also has a publication entitled, "USDA Water Conservation Checklist for the Home" which offers suggestions on how to reduce water use by household appliances and in lawn and garden care. A three panel table card covering home water conservation tips is also available. All publications are available from: Cooperative Extension Mailroom, 19 Pryor Hall, Montana State University, Bozeman, Montana 59717. Some publications may also be available from local county extension offices.

Finally, a publication and news service is available to those interested in obtaining assistance in developing and distributing public service announcements for radio and television. Contact Greg Northcut at 994-5132 in Hamilton Hall on the MSU campus.

Some publications may also be available from local county extension offices.

9.0 MONTANA DROUGHT PLAN.

For a copy of the Montana Drought Plan, contact George DeWolf or Mary Arnold at the Montana Disaster and Emergency Services Division, Department of Military Affairs, 444-6911.

APPENDIX C

Federal Drought Assistance Programs

Compiled from the Digest of Federal Disaster Assistance Programs

(DR&R 21/June 1985)

by

Montana Disaster and Emergency Services Division

PRESIDENT'S DISASTER RELIEF PROGRAM

The greatest single source of Federal disaster assistance is provided under the authorities of the Disaster Relief Act of 1974, Public Law 93-288, which is implemented by the Federal Emergency Management Agency (FEMA) following a Presidential declaration of a major disaster. FEMA administers grants to the States from the President's Disaster Relief Fund and coordinates the disaster assistance functions of all Federal agencies, whether under Public Law 93-288 or their own authorities.

The President may also make a determination that an emergency exists, requiring assistance to supplement State and local efforts to save lives and protect property, public health and safety, or to avert or lessen the threat of a disaster. The purpose of such a determination is to make available emergency assistance that, because of the pressures of time or because of the unique capabilities of a Federal agency, can be more readily provided by the Federal Government. It is specialized assistance to meet specific needs.

Definition of a Major Disaster

A major disaster means any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, drought, fire, explosion or other catastrophe in any part of the United States which, in the determination of the President, causes damage of sufficient severity and magnitude to warrant major disaster assistance by the Federal Government to supplement the efforts and resources of the States, local governments, and relief organizations.

Definition of an Emergency

An emergency means any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, drought, fire, explosion, or other catastrophe in any part of the United States which requires Federal emergency assistance to supplement State and local efforts to save lives and lessen the threat of a disaster.

When a Disaster Strikes

--Local authorities and individuals request help from...
--Private relief organizations and their State government, which give all assistance possible. If beyond their capability...
--the Governor requests a Presidential declaration of a major disaster or an emergency through...
--the FEMA Regional Office to...

--the FEMA Director who, on the basis of regional damage verification, evaluates the request and makes a recommendation to...
--The President who makes the final determination. If warranted, the President declares a major disaster or an emergency, informs the Governor, and publicly announces the declaration. The FEMA Associate Director for State and Local Programs and Support designates the areas eligible for Federal disaster assistance, authorizes the obligation of funds, and appoints a Federal Coordinating Officer, who is responsible for assuring that Federal assistance is provided in accordance with applicable laws, regulations and the FEMA-State Agreement.

In a disaster that has resulted in considerable damage, either before the Governor requests a Presidential declaration or even when it is not of sufficient severity and magnitude to warrant a request, State and local governments may request technical assistance from the Regional Director of FEMA in determining what aid might be available. The FEMA Regional Directors monitor all disasters that occur in the States and Territories within their respective regions and, at the request of the State or local government, can advise which Federal agencies or volunteer organizations have disaster relief programs that could be of assistance.

I. AGRICULTURE

AGRICULTURE CONSERVATION PROGRAM

(OMB Cat. 10.063)

Purpose of Assistance	To solve critical soil, water, energy, woodland, and pollution abatement problems on farms and ranches.
Federal Agency	Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture
Assistance Available	Cost-sharing of approved conservation practices. Cost-share payment or advance of conservation materials or services in lieu of payment. Payment rates range up to 75 percent of cost.
Eligible Applicants	Any person who as owner, landlord, tenant, or sharecropper on a farm or ranch, including associated groups, bears a part of the cost of an approved conservation practice.
Application Procedure	Form ACP-245 is submitted to the county Agricultural Stabilization and Conservation Service Office in which the land is located.
Information Sources	County or State Agricultural Stabilization and Conservation Service Office

or

Conservation and Environmental Protection Division
Agricultural Stabilization and Conservation Service
U.S. Department of Agriculture
P.O. Box 2415
Washington, D.C. 20013
Telephone: (202) 447-6221

CROP INSURANCE

(OMB Cat. 10.450)

Purpose of Assistance	The Federal crop insurance program is designed to provide individual farm producers with economic protection against crop disasters caused by conditions beyond their control including adverse weather.
Federal Agency	Federal Crop Insurance Corporation, U.S. Department of Agriculture
Assistance Available	Most farmers can buy coverage for insurable crops at 50, 65 or 75 percent of their area average yield. Currently, cotton, corn, tobacco, grain sorghum, peanuts, and rice are insurable on an Actual Production History (APH) basis only. It is the goal of FCIC to make APH the primary form of crop protection available to farmers in the future. Under APH, the yield guarantee is based on the proven productive capacity of each individual farmer. Until APH is fully implemented, the area coverage plan will continue to be available. However, farmers should keep records now, since all crops will be insurable under APH by 1987. Farmers also select their own rate of indemnity by choosing one of three price levels when they buy crop insurance. Farmers who carry private crop-hail insurance may qualify to delete hail-fire coverage from their policy and earn a premium discount. The Federal Government subsidizes 30 percent of producer-paid premium at the 50 and 65 percent coverage levels (the dollar amount of subsidy remains the same at the 75 percent level, although the percentage drops). Premiums are used exclusively to pay indemnities; all operating and administrative expenses are paid for by direct appropriation. Crop insurance is delivered by private companies through reinsurance treaties or Master Marketing agreements.
Eligible Applicants	Any owner or operator of farmland, who has an insurable interest in a crop in a county where crop insurance is offered, is eligible. If land is not classified for insurance purposes it may be insurable upon request.
Application Procedure	Crop insurance can be bought from over 20,000 private insurance agents nationwide and in some Agriculture Stabilization and Conservation Service Offices.
Information Source	Manager Federal Crop Insurance Corporation U.S. Department of Agriculture Washington, D.C. 20250 Telephone: (202) 447-6797

EMERGENCY CONSERVATION PROGRAM

(OMB Cat. 10.054)

Purpose of Assistance	To enable farmers and ranchers to perform emergency conservation measures to rehabilitate severely damaged farmland.
Federal Agency	Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture
Assistance Available	To share the cost of approved emergency conservation measures with farmers and ranchers who act to control wind erosion on farmlands; to rehabilitate farmlands damaged by wind erosion, flood, hurricane, or other natural disasters; to carry out emergency water conservation or water enhancing measures during periods of severe drought. County committees will establish levels of cost-sharing for each practice for which payments may be made by ASC at 64 percent, 40 percent, and 20 percent of the cost of restoring the loss.
Eligible Applicants	Any owner, landlord, tenant, or share-cropper on a farm or ranch who bears a part of the cost of an approved conservation practice in a disaster area.
Application Procedure	Form ACP-245 is submitted to the county Agricultural Stabilization and Conservation Service Office in which the land is located.
Information Sources	Agricultural Stabilization and Conservation Service County Office or Conservation and Environmental Protection Division Agricultural Stabilization and Conservation Service U.S. Department of Agriculture P.O. Box 2415 Washington, D.C. 20013 Telephone: (202) 447-6221

FEED GRAIN PRODUCTION STABILIZATION

(OMB Cat. 10.055)

Purpose of Assistance	To protect income for farmers.
Federal Agency	Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture
Assistance Available	Financial assistance to feed-grain producers when a natural disaster prevents planting or when harvest is less than 60 percent of normal production if Federal Crop Insurance was not available to the producer.
Eligible Applicants	Feed-grain producers on eligible farms where production is affected by a natural disaster or condition beyond the control of the producer.
Application Procedure	Contact the county Agricultural Stabilization and Conservation Service Office.
Information Sources	County or State Agricultural Stabilization and Conservation Service Office or Cotton, Grain, and Rice Price Support Division Agricultural Stabilization and Conservation Service P.O. Box 2415 U.S. Department of Agriculture Washington, D.C. 20013 Telephone: (202) 447-7633

SOIL AND WATER LOANS

(OMB Cat. 10.416)

Purpose of Assistance	To facilitate improvement, protection, and proper use of farmland.
Federal Agency	Farmers Home Administration, U.S. Department of Agriculture
Assistance Available	Guaranteed/insured loans and supervisory assistance for soil conservation; water development, conservation and use; drainage of farmland; development of pollution abatement and control facilities on farms; and development of energy conservation measures.
Eligible Applicants	Farming partnerships-cooperative or domestic corporations and individual farm owners or tenants.
Application Procedure	Application Form FmHA 410-1 is filed with County Office of Farmers Home Administration. FmHA Form 449-6, Application for Guaranteed Loan, is filed with lender.
Information Sources	County or State Farmers Home Administration Office

or

Assistant Administrator, Farmer Programs
Farmers Home Administration
U.S. Department of Agriculture
Washington, D.C. 20250
Telephone: (202) 447-4572

WHEAT PRODUCTION STABILIZATION

(OMB Cat. 10.058)

Purpose of Assistance	To protect income for farmers.
Federal Agency	Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture
Assistance Available	Financial assistance to wheat producers when a natural disaster prevents planting or when harvest is less than 60 percent of normal production if Federal Crop Insurance was not available to the producer.
Eligible Applicants	Wheat producers on eligible farms where production is affected by a natural disaster or condition beyond the control of the producer.
Application Procedure	Contact the County Agricultural Stabilization and Conservation Service Office
Information Sources	County or State Agricultural Stabilization and Conservation Service

or

Cotton, Grain, and Rice Price Support Division
Agricultural Stabilization and Conservation Service
U.S. Department of Agriculture
P.O. Box 2415
Washington, D.C. 20013
Telephone: (202) 447-7633

TITLE : Emergency Feed Program (EFP)

BENEFITS : Under the EFP, assistance is in the form of cost share payments on feed purchased. The dollar amount of assistance may not exceed 50 percent of the cost of feed purchased. Current regulations limit the amount of cost-share to three cents per pound of feed grain equivalent. The amount of feed on which a producer may receive cost share assistance may not exceed the lesser of the producer's feed loss or the amount of additional feed needed for the emergency period. Assistance is available for cattle, sheep, horses, mules, swine, and goats which have been owned at least six months; and for poultry. The program provides the necessary flexibility to permit a livestock producer to receive assistance for the purchase of the particular type of feed (roughage, grain, mixed feed, etc.) that best suits the owner's livestock or poultry operation.

IMPLEMENTATION : No declarations of disaster are required to implement EFP; however, regulations were amended to stop accepting applications effective April 18, 1982. Therefore, before the program could be operated, regulations would have to be amended to provide for the acceptance of applications. When operating EFP is authorized, implementation may be requested by the COC. If the request is approved by the STC and DASCO, the EFP can be implemented in the county.

AUTHORITY : Authority for the EFP is based on Section 1105 of the Food and Agriculture Act of 1977.

REQUIREMENTS : To be eligible for assistance, the producer must have suffered at least a 40 percent loss of feed production on the farm, have insufficient feed to maintain the livestock on the farm for the emergency period and be forced to purchase feed in quantities larger than normal. The feed loss must be due to flood, drought, fire, hurricane, earthquake, storm or other natural disaster.

DURATION : There is no expiration date in the EFP legislation. Regulations were amended ot cease accepting applications under this program after April 8, 1982.

TITLE : Livestock Feed Program (LFP)

BENEFITS : Under the LFP, CCC-owned stocks (wheat, corn, oats, barley, rye, or grain sorghum) may be sold to eligible livestock producers at not less than 75 percent of the county loan rate for the grain. The amount of feed a producer may purchase under the program may not exceed the lesser of his feed loss or feed needs. When the LFP was operated, CCC paid the cost of transporting stocks to a central location in the disaster area. Under the LFP, poultry were not considered in determining feed needs.

IMPLEMENTATION : Program regulations are still active. The LFP may be implemented in a county only after being designated as a disaster area by the Secretary of Agriculture. When last operated, a request from the Governor was required for the disaster designation.

AUTHORITY : Authority is based on Sections 407 and 4211 of the Agricultural Act of 1949 (P.L. 83-439), as amended, including P.L. 87-217 which amended the Agricultural Act of 1949 and on P.L. 86-299 of the Act of September 21, 1959, as amended.

REQUIREMENTS : Individual producers must have suffered a substantial loss of livestock feed, have insufficient feed on hand to feed their livestock, and be unable to purchase livestock feed without undue financial hardship. To provide informatiuon for this "means" determination, each applicant must complete a detailed statement of assets and liabilities. Under the LFP, the loss must have been due to flood, drought, fire, hurricane, earthquake, storm, disease, insect infestation or other catastrope.

DURATION : Although LFP regulations are still active, the program has not been used since 1976 when CCC exhausted it's stocks of livestock feed.

TITLE : Emergency Feed Assistance Program (EFAP)

BENEFITS : Under the EFAP eligible livestock producers can purchase CCC-owned low grade feed grains and wheat at 75 percent of the county loan rate for the county where the grain is stored. The amount of grain a producer may purchase may not exceed the lesser of the producer's feed loss or the amount of additional feed needed for the emergency period. Assistance under EFAP can be provided for foundation cattle, sheep, goats, swine, poultry, and their offspring. Under EFAP the producer was required to pay for transporting the grain.

IMPLEMENTATION : A county can become eligible for EFAP by a Secretarial designation as a disaster county eligible for emergency loans from FmHA, or by direct designation from the Secretary of Agriculture for EFAP. For a direct designation the initial request would come from the COC. It would then have to be approved by the STC and DASCO before being designated by the Secretary of Agriculture. Legislation mandating the EFAP directed the Secretary of Agriculture to make damaged CCC-owned corn available to farmers and ranchers who are eligible to receive emergency loans from FmHA.

AUTHORITY : Section 303 of the Dairy and Tobacco Adjustment Act of 1983 mandated that EFAP be implemented (P.L. 98-180). However, the EFAP is now being administered under Section 407 of the Agricultural Act of 1949.

REQUIREMENTS : To be eligible for assistance, the producer must have suffered a loss of feed production on the farm and have insufficient feed to maintain the farm's livestock for the period of the emergency. The Dairy and Tobacco Adjustment Act of 1983 provides that the feed loss must have been due to the 1983 drought, hot weather or related disaster. The Agricultural Act of 1949 provides that the feed loss must have been due to flood, drought, fire, hurricane, earthquake, storm, disease, insect infestation, or other catastrophe. By policy determination eligible losses for EFAP purposes are limited to those due to excess moisture or drought.

DURATION : EFAP is available at the current time in eligible counties.

TITLE : Hay Transportation Assistance Program (HTAP)

BENEFITS : Under the HTAP, transportation costs were shared with eligible producers for eligible roughage purchased from a point of origin beyond such producers' normal trade area to the location of the producer's livestock in the county. When the HTAP was last used, transportation was available for up to 20 pounds of eligible roughage per day per animal unit. The maximum cost share assistance was limited to 80 percent of the transportation costs not to exceed $50 per ton ($12.50 for silage). The pounds of hay on which a producer could receive transportation cost sharing was limited to the lesser of the producer's feed loss or the amount of additional feed needed for the emergency period.

IMPLEMENTATION : The HTAP can be implemented only through a mission assignment from FEMA. Under a mission assignment to HTAP is funded by FEMA. The county must be declared a disaster area by the President before the HTAP can be implemented.

AUTHORITY : The USDA does not have legislative authority to fund a HTAP. The authority for FEMA to fund a program such as HTAP comes from the Disaster Relief Act.

REQUIREMENTS : To be eligible for assistance, the producer must have suffered at least a 40 percent loss of feed production on the farm and have insufficient feed to maintain the farm's livestock for the period of the emergency.

DURATION : The HTAP was last used in 1977. The program was not used after the institution of the Emergency Feed Program (EFP). The EFP made available assistance that the HTAP was unable to provide.

TITLE : Cattle Transportation Assistance Program (CTAP)

BENEFITS : Under the CTAP, transportation costs were shared with eligible producers in counties designated as emergency areas for transporting eligible livestock to and from other locations where grazing lands were available. When the CTAP was last used, transportation assistance was limited to two thirds of the actual cost not to exceed the State ICC rate with a maximum of $24 per head. The amount of assistance a producer could receive under the program was limited to the lesser of the producer's feed loss or the amount of additional feed needed for the emergency period.

IMPLEMENTATION : The CTAP can be implemented only through a mission assignment from FEMA. Under a mission assignment the CTAP is funded by FEMA. The county must be declared a disaster area by the President before the CTAP can be implemented.

AUTHORITY : The USDA does not have any legislative authority to fund a CTAP. The authority for FEMA to fund a program such as CTAP comes from the Disaster Relief Act.

REQUIREMENTS : To be eligible for assistance, the producer must have suffered at least a 40 percent loss of feed production on the farm and have insufficient feed to maintain the farm's livestock for the period of emergency.

DURATION : The CTAP was last used in 1977. The program was not used after the institution of the Emergency Feed Program (EFP). The EFP made available assistance that the CTAP was unable to provide.

TITLE : Crash Feed Grain Donation Program (CFGDP)

BENEFITS : Under the CFGDP, CCC-owned feed is donated for use in feeding livestock for short periods of time (usually less than 30 days) after a sudden major disaster. Eligible livestock includes cattle, sheep, goats, swine, poultry, horses and mules which are commingled, stranded and unidentified as to owner, or if the owner is temporarily unable to arrange for feed or pasture.

IMPLEMENTATION : Before the CFGDP can be implemented the county or other area must be designated a disaster area by the President. If the program is implemented under the Disaster Relief Act of 1974, requests from the Governor for the CFGDP are made to the FEMA Regional Office. If the CFGDP is implemented under the Agricultural Act of 1949, as amended, the following is required:

1. A report of need from the county and State ASCS office.

2. State ASCS recommendation.

3. A certification of need from the Governor.

AUTHORITY : Authority is based on Section 407 of the Agricultural Act of 1949, as amended, the Disaster Relief Act of 1974, and the CCC Charter Act, as amended. The above acts would permit (1) the Secretary to implement the CFGDP under authority of the Agricultural Act of 1949, as amended, or (2) FEMA to direct ASCS to implement the CFGDP under authority of the Disaster Relief Act of 1974. If the CFGDP is authorized under the Disaster Relief Act of 1974, ASCS would operate the CFGDP under a mission assignment from FEMA. Under a mission assignment, the CFGDP would be funded by FEMA. Except on a reimbursable basis, CCC shall not bear any costs in making such feed grains available beyond the cost of the feed grains in store, and the handling and transportation costs in making delivery of the feed grains at one or more central locations in each State or other area.

REQUIREMENTS : The eligibility of the livestock producer is not a factor. During a period of chaos the primary concern is for the welfare of the livestock. The county ASCS committee, or if it is unable to act, the State ASCS committee, or its designee, shall determine the eligibility of livestock in an area for donations under Section 407 of the Agricultual Act of 1949. Livestock producers who have their livestock under control and are capable to caring for them are not eligible for assistance under the CFGDP.

DURATION : The CFGDP was last used in 1976.

TITLE : Herd Preservation Feed Grain Donation Program (HPFGDP)

BENEFITS : Under the HPFGDP, CCC-owned feed is donated to livestock producers whose resources have been so damaged by the disaster that they are incapable of buying feed at market prices. The HPFGDA could logically be used after the short term Crash Feed Grain Donation Program. The HPFGDA would provide assistance to eligible livestock producers after their livestock cease to be commingled, stranded, and unidentified as to ownership. Eligible livestock includes cattle, sheep, goats, swine, poultry, horses and mules.

IMPLEMENTATION : Before the HPFGDP can be implemented the county or other area must be designated a disaster area by the President. If the program is implemented under the Disaster Relief Act of 12974, requests from the Governor for the HPDGDP are made to the FEMA Regional Office. If the HPFGDP is implemented under the Agricultural Act of 1949, as amended, the following is required:

1. A report of need from the county and State ASCS Office.

2. State ASCS recommendation.

3. A certification of need from the governor.

AUTHORITY : Authority is based on Section 407 of the Agricultural Act of 1949, as amended, the Disaster Relief Act of 1974 and the CCC Charter Act, as amended. The above acts would permit (1) the Secretary to implement the HPFGDP under authority of the Agricultural Act of 1949, as amended, or (2) FEMA to direct ASCS to implement the HPFGDP under authority of the Disaster Relief Act of 1974. If the HPFGDP is authorized under the Disaster Relief Act of 1974, ASCS would operate the HPFGDP under a mission assignment from FEMA. Under a mission assignment, the HPFGDP would be funded by FEMA. Except on a reimbursable basis, CCC shall not bear any costs in making such feed grains available beyond the cost of the feed grains in store, and the handling and transportation costs in making delivery of the feed grains at one or more central locations in each State or other area.

REQUIREMENTS : Only those livestock producers are eligible whose resources have been so damaged by the disaster that they are incapable of buying feed at market prices, or at reduced prices under any other emergency livestock feed assistance progreams. The county ASCS committee, or if it is unable to act, the State ASCS committee or its designee, shall determine the eligibility of applicants for donated grain under HPFGDP. To be eligible for assistance, the producer must have suffered at least a 40 percent loss of feed on the farm and have insufficient feed to maintain the farms' livestock for the period of the emergency.

DURATION : The HPFGDP is currently being operated in designated West Virginia counties.

II. BUSINESS

AID TO MAJOR SOURCES OF EMPLOYMENT

(OMB Cat. 83.516)

Purpose of Assistance	To enable major sources of employment to resume operations in order to assist in restoring the economic viability of a disaster area.
Federal Agency	Small Business Administration and Farmers Home Administration, U.S. Department of Agriculture
Assistance Available	After a declaration of a major disaster, loans from the Small Business Administration in the case of a nonagricultural enterprise, and the Farmers Home Administration in the case of an agricultural enterprise.
Eligible Applicants	Any industrial, commercial, agricultural or other enterprise which has constituted a major source of employment in an area suffering a major disaster and which is no longer in substantial operation as a result of such a disaster.
Application Procedure	Application is made to the Small Business Administration or the Farmers Home Administration.
Information Sources	Local or Regional Offices of the Small Business Administration and the Farmers Home Administration

or

Director
Office of Disaster Loans
Small Business Administration
1441 L Street, N.W.
Washington, D.C. 20416
Telephone: (202) 653-6376

or

Director, Emergency Loan Division
Farmers Home Administration
U.S. Department of Agriculture
Washington, D.C. 20250
Telephone: (202) 382-1640

ECONOMIC INJURY DISASTER LOANS

(OMB Cat. 59.002)

Purpose of Assistance	To assist small business concerns suffering economic injury as a result of a disaster.
Federal Agency	Small Business Administration (SBA)
Assistance Available	After a Presidential declaration of a major disaster or a declaration by the Administrator, SBA, guaranteed, immediate participation or direct loans to any one small concern or group of affiliated concerns to pay current liabilities that could have been paid if the disaster had not occurred. Working capital can be provided to continue the business in operation until conditions return to normal. No funds are available for realty, equipment repair, or acquisition.
Eligible Applicants	Must be a small business concern as described in SBA rules and regulations and must furnish evidence of the extent of economic injury claimed.
Application Procedure	Application is filed with the nearest SBA field office.
Information Sources	Local or Regional Offices of the Small Business Administration

or

Director
Office of Disaster Loans
Small Business Administration
1441 L Street, N.W.
Washington, D.C. 20416
Telephone: (202) 653-6376

III. EMERGENCY SERVICES

FOOD, WATER, AND SHELTER

(CMB Cat. 83.516)

Purpose of Assistance	To provide food, water, mass feeding, and shelter services in time of natural disaster.
Federal Agency	Appropriate Federal agencies as requested by the Federal Emergency Management Agency
Assistance Available	After a Presidential declaration of a major disaster or an emergency, specialists to assist and advise local governments in (1) surveying the availability of local food and supplies; (2) supervising the storage, transportation, and distribution of consumer goods and commodities; (3) sheltering operations; and (4) providing potable water for emergency drinking and cooking purposes.
Eligible Applicants	State and local governmental agencies.
Application Procedure	Requests should be made through the Governor's Authorized Representative to the Regional Director of the Federal Emergency Management Agency.
Information Sources	Regional Offices of the Federal Emergency Management Agency (Appendix A)

or

State and Local Programs and Support
Federal Emergency Management Agency
Washington, D.C. 20472
Telephone: (202) 646-3644

IV. FIRE SUPPRESSION

FIRE SUPPRESSION ASSISTANCE

(OMB Cat. 83.516)

Purpose of Assistance	To provide assistance for the suppression of any fire on publicly or privately owned forest or grassland which threatens to become a major disaster.
Federal Agency	Federal Emergency Management Agency
Assistance Available	Grants and other assistance required for the suppression of fires in accordance with a Federal-State Agreement for fire suppression.
Eligible Applicants	Any State.
Application Procedure	The Governor of a State (or his/her authorized representative) must submit a request for Federal assistance under Section 417, Public Law 93-288, through the Federal Emergency Management Agency Regional Director.
Information Sources	Regional Offices of the Federal Emergency Management Agency (Appendix A) or State and Local Programs and Support Federal Emergency Management Agency Washington, D.C. 20472 Telephone: (202) 646-3686

X. STATE AND COMMUNITY ASSISTANCE

FEDERAL RECLAMATION PROJECTS

Purpose of Assistance	To provide for Federal development of multi-purpose water and related land resources projects, including such functions as irrigation, municipal and industrial water supplies, hydroelectric power, flood control and river regulation, water quality control, outdoor recreation, and fish and wildlife enhancement in the 17 contiguous western States.
Federal Agency	Bureau of Reclamation, Department of the Interior
Assistance Available	Project costs for irrigation, water supply and hydro-electric energy are fully reimbursable by water and power users. A part of costs for water-oriented recreation, fish and wildlife must be borne by State or local entities. Remaining costs in public interest are generally nonreimbursable.
Eligible Applicants	Public non-Federal entities organized under State law and eligible to contract with the Federal Government.
Application Procedure	All Bureau activity must be specifically authorized by and receive appropriation from Congress on the basis of planning reports demonstrating the economic justification and financial and engineering feasiblity of the project.
Information Sources	Regional Director, Bureau of Reclamation or Commissioner Bureau of Reclamation Department of the Interior Washington, D.C. 20240 Telephone: (202) 343-5104

RESOURCE CONSERVATION AND DEVELOPMENT

(OMB Cat. 10.901)

Purpose of Assistance	To assist rural communities in initiating and carrying out long-range programs of resource development and conservation.
Federal Agency	Soil Conservation Service, U.S. Department of Agriculture
Assistance Available	Project grants and technical assistance.
Eligible Applicants	Public agencies and nonprofit organizations with authority to plan or carry out activities relating to resource use and development in multi-jurisdictional areas.
Application Procedure	Contact local office, Soil Conservation Service.
Information Sources	State and local offices of the Soil Conservation Service

or

Deputy Chief for Programs
Soil Conservation Service
U.S Department of Agriculture
P.O. Box 2890
Washington, D.C. 20013
Telephone: (202) 447-4527

SMALL RECLAMATION PROJECTS

(OMB Cat. 15.503)

Purpose of Assistance	To assist the rehabilitation and betterment or construction of water resource development projects in the 17 contiguous western States and Hawaii.
Federal Agency	Bureau of Reclamation, Department of the Interior
Assistance Available	Project grants/direct loans for irrigation and drainage, water supplies, fish and wildlife, recreation development, flood control, and hydroelectric power.
Eligible Applicants	Public non-Federal organizations, organized under State law and eligible to contract with the Federal Government, that can demonstrate engineering and financial feasibility of project proposal.
Application Procedure	Prepare an engineering and economic application report with assistance as needed from the Bureau of Reclamation Regional Office where the application will be filed.
Information Sources	Regional Director, Bureau of Reclamation or Commissioner Bureau of Reclamation Department of the Interior Washington, D.C. 20240 Telephone: (202) 343-5104

WATER AND WASTE DISPOSAL SYSTEMS FOR RURAL COMMUNITIES

(OMB Cat. 10.418)

Purpose of Assistance	To provide basic human amenities and alleviate health hazards in rural areas, including towns with less than 10,000 inhabitants.
Federal Agency	Farmers Home Administration, U.S. Department of Agriculture
Assistance Available	Loans and project grants for installation, repair, improvement, or expansion of rural water or waste disposal systems.
Eligible Applicants	Public entities, nonprofit corporations, and Indian tribes.
Application Procedure	Contact the County or District Farmers Home Administration Office.
Information Sources	County, District, or State Farmers Home Administration Office

or

Director, Water and Waste Disposal Division
Farmers Home Administration
U.S. Department of Agriculture
Washington, D.C. 20250
Telephone: (202) 382-9583

ANNEXES TO THE

MONTANA DROUGHT CONTINGENCY PLAN

OFFICE OF THE GOVERNOR'S ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

The Office of the Governor has a variety of responsibilities under the Montana Drought Plan. These responsibilities can be divided into three functional areas: Disaster Designation, Activation and Operation of the Montana Disaster Advisory Council, and Public Information. Each of these areas fill an essential role in the successful implementation of the Drought Plan.

I. DISASTER DESIGNATION:

In the case of economic injury and production loss due to drought and other natural disasters, the Office of the Governor works with the State Emergency Board and the county governing bodies to expeditiously gather county disaster requests and supporting documentation. The Governor sends copies of all county requests to the State Emergency Board and to the Disaster and Emergency Services Division of Military Affairs to keep them apprised of which counties are making requests.

On behalf of the affected counties, the Governor requests federal disaster designation of those counties by the Secretary of the U. S. Department of Agriculture. The Governor coordinates his formal request (see attached example) with the State Emergency Board so that the supporting documentation arrives at USDA at approximately the same time as his request.

Disaster designation by the Secretary of Agriculture triggers assistance under the SBA Economic Injury Loan Program, the FmHA Emergency Loan Program, and the U. S. Soil Conservation Service.

II. ACTIVATION AND OPERATION OF THE MONTANA DISASTER ADVISORY COUNCIL:

At the Governor's request, the Montana Disaster Advisory Council, will become active and implement the assessment and response systems of the Drought Plan.

The Montana Disaster Advisory Council is chaired by a representative of the Governor. This council moderator sets meeting times, location, agendas, notifies participants and requests reports and appropriate information from participating departments. The moderator assimilates the recommendations of the Montana Disaster Advisory Council and pre-sents these recommendations to the Governor for further action.

The Governor requests the participation of and/or information from other State agencies as necessary; evaluates the recommendations of the Montana Disaster Advisory Council and takes appropriate action; and resolves questions of potential conflict to allow a coordinated response to the drought.

The Drought Coordinator within the Office of the Governor facilitates the flow of information from the Office of the Governor to the Montana Disaster Advisory Council and visa versa. The Drought Coordinator also facilitates the flow of drought information within the Office of the Governor.

III. PUBLIC INFORMATION:

As the most visible and representative office of State Government, the Office of the Governor has a major role in releasing public information on drought. This role includes: unifying information releases by other State agencies; making major policy statements on overall drought assessment and response system actions; making statements on the drought status in the State; producing and distributing public service announcements on water conservation and drought.

TED SCHWINDEN
GOVERNOR

State of Montana
Office of the Governor
Helena 59620

July 29, 1988

The Honorable Richard E. Lyng
Secretary
U.S. Department of Agriculture
14th Street and Independence SW
Washington, D.C. 20250

Dear Secretary Lyng:

I respectfully request that you add the following Montana Counties to those requested as drought disaster areas in my letters of May 31, 1988, June 7, 1988, June 15, 1988, June 23, 1988, and July 15, 1988, for purposes of receiving assistance under the Farmers Home Administration Emergency Loan Program, and other programs which may be available:

Beaverhead	Meagher
Glacier	Park

The disaster situation exists primarily because of drought conditions, but it has been compounded by grasshopper infestations. The impact of the drought, described in my previous letters, continues to worsen daily. The enclosed Local Emergency Board Damage Assessment Reports document the extent of the disaster.

Your prompt review and approval of these requests will be appreciated.

Sincerely,

TED SCHWINDEN
Governor

Enclosures

cc: Everett Snortland
Jim Egan

bcc: County Commissioners in the 4 counties
DES

DEPARTMENT OF AGRICULTURE'S ANNEX TO

MONTANA DROUGHT PLAN

ASSESSMENT

Assess drought impacts on agriculture with emphasis on:

A. Crop - Irrigated and Dryland Hay, Forage, Row Crop, Grain.

B. Range and Livestock.

C. Insect and Pest Problems.

D. Weeds.

E. Soil Erosion.

F. Availability of Agricultural Credit.

RESPONSE

A. Weekly monitoring using the Crop Weather Report.

B. Twice monthly monitor using the reporters reports produced cooperatively by:

1. Montana Department of Agriculture.
2. Statistical Reporting Service - USDA.
3. National Weather Service.
4. Agricultural Extension Service.

(Examples of reports attached at back of Annex.)

C. Conduct Agricultural Credit Survey.

AGRICULTURE - RANGE AND LIVESTOCK

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: Precipitation below normal -	Obtain and provide producers with drought information so they may make management	Implement a major program on improving poor or over-grazed land.

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: (Con't) stock ponds are in poor conditions	decisions on utilization of range lands, livestock numbers, use of pastures, leasing limitations.	Utilize available cost-share programs.
		Tax incentives.
	Producer should assess lands to determine carrying capacity, culling needs, and to develop a plan for the year's operations.	Implement rest-rotation programs.
		Develop new stock water sources.
	Obtain or develop water supplies in local areas with critical livestock water problems.	Alert county Commissioners and county disaster committees (state and federal) to disaster, to allow them to begin preparing plans to alleviate drought impact.
	Implement program to move in hay and grain for feeding purposes.	
MODERATE:	Provide assistance for watering livestock.	

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MODERATE: (con't)	Provide financial aid to repair wells, dams, trough, and to develop spring and other water sources. Water systems developed must not waste water. Graze bailed straw or grain crops that fail. Implement noxious weed management. May need to haul water to livestock. Fire protection? Insure infiltration of water is maintained in rangelands. Protect rangeland from grass-hoppers, etc.	
SEVERE:	Obtain and provide producers with information. Determine probable outlets and destination of salvageable	Same as moderate. Declare major disaster provide financial aid, including state and

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
SEVERE: (Con't)	livestock for slaughter, feedlot, dairy production or grazing.	federal aid to keep livestock producer in business until affects of drought cease.
	Request Montana livestock loan and credit organizations for direction in meeting their demands on mortgaged livestock.	
	Inventory transportation capabilities.	
	Implement R.E.A.D.E.O. (Regional Emergency Animal Disease Eradication Organization).	
	Obtain heavy equipment for use in burial of animals and/or assist rendering plant management in measures to carry out round-the-clock animal disposal.	
	Arrange for local county central operational basis, utilizing state-federal employees, licensed livestock buyers and producers.	

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
SEVERE: (Con't)	Utilize supportive non-government Veterinarians in R.E.A.D.E.O. Program.	
	Plan and obtain feedstuff to allow retaining of purebred or other "seed-stock" in limited numbers as findings may permit.	

AGRICULTURE-IRRIGATION
Hay, Forage, Row Crops, Grains

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: Irrigation waters below normal	Inspect floor irrigation and sprinkler system to correct defects and increase utilization.	Convert to sprinkler irrigation.
		Permanently seal seepage areas.
	Clean debris, weeks, silt, sand to improve water flow in canals and ditches.	Improve storage reservoirs.
		Prevent over irrigation through education programs.
	Replace or repair defective headgates and other structures.	
		Emphasize monitoring systems.

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: (Con't)	Seal seepage areas in canals, ditches with bentonite or permanent lining.	Obtain disaster designation in counties continuing to experience drought.
	Check, repair, and clean equipment for maximum efficiency.	Alert county disaster committees (state and federal) early so they begin preparing for drought.
	Use soil moisture monitoring equipment.	
	Utilize pump back systems.	
	Use shorter runs in furrow irrigation.	Develop plans on increasing irrigation waters, protecting soil if drought continues into second year.
	Select best crop for water utilization.	
	Eliminate water loss caused by trees near irrigation system.	
	Coordinate fertilizer use with water availability.	

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: (Con't)	Use largest possible flow, or head to increase efficiency in distribution and application.	
	Insure proper water velocity.	
	Prevent rodent burrowing.	
	Measure amount of water applied to field and soil moisture according to crop needs.	
	Utilize sprinkler irrigation whenever possible.	
	Sprinkler irrigation must be properly designed and maintained (prevent system from running too fast or too slow).	
	Establish field demonstrations and pamphlets on proper utilization and monitoring of water in various crop situations.	

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: (Con't)	Provide economic data on sprinkler system versus flood irrigation.	
	Improve existing systems.	
	Provide crop with water at critical growth states "see S.C.S. Tips."	
	Carry out weed control operations on irrigated land.	
	Alert county commissioners and county disaster committees to allow for preparation of coordinated action to alleviate drought conditions.	
	Perform insect control programs especially if major infestations occur.	
MODERATE: Irrigation waters	Emphasis items listed under mild conditions.	Use alternate cropping systems.

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MODERATE: (Con't) extremely limited	Provide financial aid to develop new water sources, improve delivery systems, convert to sprinkler irrigation.	Declare emergency. Economic aid on personal property.
	Only irrigated primary areas to achieve most beneficial use.	Economic aid on personal property.
	Declare emergency	Adopt alternative forage crops, i.e., millets.
SEVERE: Virtually no irrigation water available	Utilizing alternative cropping systems.	
	Develop new sources.	
	Utilize only sprinkler irrigation.	
	Remove taxes until drought ends.	
	Insure soil is protected-use cover crops.	

AGRICULTURE - DRY LAND FARMING

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: precipitation is slightly below normal and soil moisture conditions are variable	Plan early (March or April) Repair, clean and lubricate equipment to insure seeding is performed early. Allow crops to achieve best growth prior to hot season. Best yields and test weights Obtain improve water utilization by proper fertilization. Determine soil moisture to decide type of crop or leave land fallow. Control weeds to prevent competition. Plant only seeds that insure good germination and purity.	Emphasize use of drought resistant varieties. Prevent soil erosion by utilizing cover crops or no till operations. Control weeds to prevent loss of soil moisture. Utilize education programs to inform producers of management practices to conserve soil moisture, use of proper varieties or different crops or cropping patterns. Use and improve no till operations. Emphasize soil protection. Alert county commissioners & disaster

CONDITIONS	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD: (con't)	Clean and treat seed if weed seed is present.	committees so plans for alleviating effects of drought can be prepared
	Use heavy or plump seed.	
	Fire protection?	
	Utilize no-tillage operations to conserve soil moisture.	
MODERATE: Soil moisture conditions are poor-precipitation is half of normal	Plant only the best land as it utilizes water to best advantage.	Implement weather modification if possible.
	Use high-yielding, drought resistant varieties.	Provide assistance-financial and technical--producers to implement long-term conservation and crop management practices to insure continued production.
	Provide cover to protect fallow or farmer cropland to prevent soil erosion.	
	Water use by crops - dryland, Paul Brown Data and fertilizer requirements.	Declare emergency in appropriate counties - obtain loans for producers.
	Thin stands for improved vigor.	

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MODERATE: (Con't)	Obtain emergency assistance to insure producers can protect soil and realize reasonable crops.	
	Fire protection?	
SEVERE: Soil moisture conditions are poor and variable. Precipitation is adequate.	Utilize all procedures set forth under mild and moderate.	Implement major conservation programs with state and federal funds to prevent future droughts from affecting producers.
	Provide direct financial assistance to insure producers are not forced off of land.	
		Obtain financial aid to keep producers on land until drought effects cease.

AGRICULTURE - FINANCE

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MILD:	Dissemination of public information on federal/state programs.	Evaluate and update financial resources available.
	Provide avenue of communication with financial institutions on agricultural credit availability.	

CONDITION	SHORT-TERM RESPONSE	LONG-TERM RESPONSE
MODERATE:	Disseminate public information and provide technical support and disaster declarations.	Work with congressional delegation to provide adequate disaster financial resources.
	Work with appropriate county and federal officials (Fm.H.A., S.B.A. etc.) to provide disaster financing.	
	Work with financial institutions to provide for debt restructuring.	
	Provide farm credit seminars for loan restructuring.	
SEVERE:	Provide agriculture credit counseling to operators.	Develop legislation to provide financial Assistance.
	Initiate farm crisis hot line.	Analyze and evaluate state resources to initiate SB208 or direct financing of viable operators.
	Develop financial resources to allow establishment of cover crops, etc., for soil conservation.	Develop legislation to provide financial resources for soil conservation.

Contact Person:	Ralph Peck	444-3144
	Gary Gingery	444-2944

DEPARTMENT OF COMMERCE ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

ASSESSMENT:

Drought impact assessment by the Department of Commerce will concentrate on damage to the economy of the state resulting from water shortage. Assessments will be grouped into the three general categories of impact on tourism, impact on the agricultural economy, and impact on mining, manufacturing and other industry.

Impact on Tourism

Drought's impact on Montana's tourism industry is the area in which the greatest amount of information is most readily available to the Department. Impact assessment is conducted according to the following format:

1. Compilation of information from calls to the toll free travel line available at the Montana Promotion Division for access by out-of-state callers. This information would be useful in determining the extent to which awareness of Montana's drought situation is affecting tourists' attitude toward visiting the state. Changes in tourism activity as a result of a negative attitude could be extremely damaging to Montana's economy.
2. The status of the state's tourism industry is tracked on a monthly basis. Information is assembled from various sources such as the National Park Service (counting Park visitors) and elements of the industry itself (comparing current to past activity at specific facilities).

3. General tourism industry conditions can be analyzed through statistics available from the Bureau of Labor Statistics (from the Department of Labor and Industry) and from the Bureau of Economic Analysis (the U.S. Department of Commerce). Data is available on monthly, quarterly, or yearly basis which illustrate employment in the "services" sector (hotels and other lodging) of the economy through current condition comparisons with previous month and previous year. Personal income, labor income, and wages and salary information for the services sector is also available but on a much more delayed timeframe from the period measured. For example, fourth quarter 1984 information was received in May 1985. First quarter 1985 information will not be received until August 1985.

4. Finally, specific analysis using all the previous information sources plus a telephone survey could be activated at any given time. The process of constructing a survey instrument, selecting a proper sample for measurement, conducting the calls, and evaluating information would take about four days from the moment the inquiry was made. Emergency conditions could cause that process to be pushed faster if necessary.

Impact on the Agriculture Economy

The basic statistical tools for evaluating impact on agriculture are available at the Department of Commerce but more specific information augmented by contact with the agricultural community could be best formulated in cooperation with the Department of Agriculture. The format for conducting the impact assessment within the framework available at Commerce is described below:

1. Statistics related to agricultural employment, farm wages, and farm income are available on a monthly or quarterly basis from the Bureau of Labor Statistics (from the Department of Labor and Industry) and the Bureau of Economic Analysis (U.S. Department of Commerce). These statistics can be used to evaluate trends in the agricultural economy that indicates weakening. More specific investigation would be necessary to determine drought's role in that weakening.

2. Collection of information from the Federal Crop Insurance Corporation would be useful in assessing a greater data base for evaluating drought damage. That information can be combined with output from other sources to offer site-specific evaluation of impact.

3. Evaluation of primary impact on producers should be augmented by a review of secondary impacts such as decreases in farm implement sales, feed and other supply sales. This would offer the most thorough evaluation of drought damage but would require more time to produce adequate analysis.

4. Information from the Montana Crop and Livestock Reporting Service and the Department of Agriculture can be accessed to form the basis around which previously described data can be centered to provide impact analysis on specific areas and projections of growing problems.

Impact on Mining, Manufacturing, and Other Industry

1. Preliminary study is beginning now to identify water intensive businesses and industrial facilities.

2. Wage, salary, income, and employment statistics are available on the same periodic basis as noted for the two previous impact areas.

3. Due to the diversity of businesses within the broad categories in which information is available, more specific research would be necessary to identify impact on a particular industry. Contacting individual businesses impacted by primary and secondary effects, compiling existing data, and evaluating impact should still take no longer than four to five days from the time of inquiry.

Assessment Checklist

The Department of Commerce has aimed its Drought Assessment plan at determining the extent of primary and secondary impacts on Montana's economy. The information available to us can show signs of weakening in the three general economic sectors addressed but in all cases, more specific research will be necessary to evaluate the extent to which drought has affected that weakening.

Our assessments will emphasize losses in employment, decreases in personal income, wages, and salaries for all areas affected. Particularly attention will be paid to decreasing tourism visitation levels and losses in revenue to the tourism industry. Other areas of the Montana economy which involve water intensive processes may be impacted by drought. The Department will stand ready to pursue assessments in those areas along with tourism and agriculture.

The following checklist includes the subjects on which the Department will be ready to prepare assessments, the primary and alternate contact persons and their phone numbers.

SUBJECT	PRIMARY CONTACT	PHONE #	ALTERNATE CONTACT	PHONE #
General Drought Concerns	Tom Clinch	444-3494	Andy Poole	444-3494
Tourism Impact	Tom Clinch	444-3494	John Wilson	444-4318
Business & Industrial Impact	Tom Clinch	444-3494	Phil Brooks	444-4391
Agricultural Economy-Measures of Decline	Tom Clinch	444-3494	Phil Brooks	444-4391

RESPONSE

Two general avenues of activity are suggested in meeting the Department's charge of reducing drought impact on commerce and tourism where possible and in promoting water conservation practices. The Department Drought Coordinator is Tom Clinch, Director's office, 444-3494.

Tourism Response

Drought's impact on the tourism industry is related not only to actual water shortage but also to the manner in which public notice of a drought situation is handled. The public's reaction to dry conditions in one area may expand to negative perception of the entire state if publicity is not selective in its illustration of drought. The Department will remain mindful of this situation in its drought response activities.

The Department's contact for response activities related to tourism is John Wilson, Administrator, Montana Promotion Division, 444-4318. The following vehicles are available for use in tourism-related response activities:

1. The tourism advice toll free line available to out-of-state callers can be, and is being used to direct out-of-state visitors to areas in the state not affected by water shortages. Positive promotional activities will be possible throughout the drought period by emphasizing tourist travel in unthreatened locations. This will serve both purposes of minimizing negative impact on the tourism industry and promoting conservation in drought areas.
2. The Montana Promotion Division has in place the processes necessary to produce news releases and attain rapid distribution to the various resort and tourist locations throughout the state. Information regarding projected crisis, crisis mitigation efforts, and other directions to the touring public can be disseminated in this manner.
3. The MOntana Promotion Division can be established as a tourist advisory center by publicizing its telephone number or connecting with an in-state toll free number for the use by tourists and person's involved in the tourism industry. Information useful to tourists and operators can be compiled and made available from the Division if the drought situation becomes serious enough to begin central coordination of tourist activities and facilities' water use.

Other Montana Business and Industry Response

Drought response related to Montana's retail businesses, mining operations, and industrial facilities will vary widely depending on severity of conditions and the type of commercial activity involved. The Department's contact for business and industry-related response is Phil Brooks, State Economist, 444-4391.

The Department can make available a contact person and phone number for use as a drought information center for Montana businesses and industry. Various drought-related information and any drought mitigation processes the State may make available to businesses could be compiled for dissemination by the Department's contact person. Providing information on means of water conservation and of satisfying business needs through alternate water sources could be the major goal of the information center. The center could also assist in implementing any emergency measures that may be necessary in seeking cooperation from businesses and industry in meeting public needs.

Response Checklist

The following checklist includes the contacts, phone numbers, and drought response responsibilities for the Department of Commerce.

RESPONSE AREA	PRIMARY CONTACT	PHONE #
Department Drought Coordinator	Tom Clinch	444-4371
Tourism Contact	John Wilson	444-4318
Business & Industry Contact	Phil Brooks	444-4391

DEPARTMENT OF FISH, WILDLIFE AND PARKS ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

FISHERIES DIVISION

Reduced stream flows can have many significant impacts on fish populations. We are particularly vulnerable to the stress and mortality of fish caused by dewatering streams because we manage the waters for wild or natural fish populations. The department has water rights in sections of 12 "**blue ribbon**" trout streams and an instream flow reservation in the Yellowstone River Basin. The purpose of these instream rights is to reduce the probability of adversely low stream flows occurring.

As in the past, we notify junior water right holders when stream flows are approaching our instream flow right. At that time, they are requested to reduce or curtail their use of water during the drought period. Water rights in the **"blue ribbon"** streams have a 1970 or 1971 priority date and are presently in various stages of the water adjudication process. The Yellowstone Basin has a 1978 priority date.

In streams where we have no instream flow rights we are not in a position to affect streamflows nor are we guaranteed adequate stream flows where we have water rights. Irrigators and other senior water right holders may have the rights to all remaining water. In these situations we can only appeal to water right holders to leave sufficient water to flow between holes in these rivers in hopes of sustaining fish life.

As necessary, requests are made of the Commission to grant to the Director the authority to restrict or liberalize fishing regulations depending

on the conditions, with the concurrence of the Commissioner from the area involved (or, in his absence, the Commission Chairman). In streams managed for wild or natural fish populations, we may recommend closing the fishing season when it appears conditions are becoming stressful to fish because of higher temperatures, crowding, vulnerabi-lity or similar factors. The objective would be to avoid added stress to the population in the hope that conditions may be relieved and the population can be maintained.

In waters managed with hatchery trout, which would mostly be smaller reservoirs. we, we may recommend more liberal regulations if it becomes apparent that the fish will die. Waters stocked with hatchery fish can be replenished the following year and will begin to produce a fishery a year later. However, wild fish populations must be given every opportunity to survive the drought.

There are several streams which routinely go dry in the state because they are over appropriated for water use. It is unlikely that we will propose any special regulations for these streams because the value of the aquatic resources in these streams is often very low.

Low water creates other problems as well. Irrigators often find it necessary to get into the stream channel to divert the remaining water into their ditches, creating dikes in the river channel. these impacts are more long lasting than might be apparent. They destabilize the streambed creating poor conditions for fish food organisms and successful fish spawning.

Irrigators have the right to make these changes under the emergency provisions of the streambank law. However, we encourage water users to anticipate low water conditions and obtain the necessary permits before entering the stream channels.

The Department of Agriculture will be asked to advise persons applying herbicides and pesticides near surface water to be extremely careful to avoid contamination of lakes and streams during drought years. Very small amounts of chemicals are likely to trigger mortalities in fish populations already stressed by abnormally low flows and high temperature.

Press releases will be prepared to explain the impacts of low water on fish, the purpose of proposed regulation changes, efforts the department has made to protect instream water rights and encouraging judicious use of water. The department will also continue to work with other state and federal agencies to maintain the best stream flows possible below reservoirs.

PARKS DIVISION

In the event of serious drought causing fire danger to all or portions of Montana, water-based parks, especially near population centers and along all main tourism routes, would be kept open. This will provide concentrated places for people to recreate and camp in manageable areas where the fire danger can be minimized and fire can more readily be controlled. Additional personnel and equipment could be stationed at such sites or be available, on call nearby, if necessary.

In sites where fire danger is considered high, open fires can be prohibited. The department has a supply of signs available for that purpose. Coleman-type stoves and lanterns could still be permitted.

In areas of extreme fire danger, land-bases sites or sites which receive only limited use or supervisory control could be closed to public use. Other

intensely managed land-based sites, such as Lewis and Clark Caverns State Park, would remain open. Open fires would be prohibited and fire fighting equipment and personnel would be ready on-site for immediate use if necessary.

WILDLIFE DIVISION

Since wildlife and vegetation evolved because of weather patterns, including drought, there is little that can be done directly for wildlife during a drought period.

Therefore, efforts of the Montana Department of Fish, Wildlife and Parks to minimize effects of a drought would be directed toward activities of hunters. Hunting seasons could readily be shortened, deferred, or canceled to reduce physical damage to drought-affected livestock forage supplies. Wildlife damage to livestock forage supplies (haystacks or otherwise) or to crops suffering from drought may be lessened by implementation of specially conducted hunting seasons. Trapping and removing wildlife from problem areas may not be realistic because there would probably not be any areas without similar problems in which to put them.

Information transmitted via news media to hunters and other recreationists could call attention to specific problems, and suggested solutions. This information could, for example, instruct persons afield where to report fires and how to assist with fire suppression.

Utilizing shortened, deferred, or canceled hunting seasons, along with reduced bag limits, may alleviate the drought associated stress on these wildlife populations. Feeding wildlife to alleviate drought-related stress is not advised.

Department Drought Contacts are:

Fisheries

Pat Graham, 444-2449

Wildlife

Arnold Olson or Don Childress, 444-2612

Parks

Don Hyyppa, 444-3750

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

I. **ASSESSMENT:**

A. Identification of community public water supply sources. DHES will utilize information stored in various files and on the state computer system to determine the source(s) of water for each of the approximately 630 community systems in Montana. Those systems will be classified according to the type of water source(s) utilized into surface water systems, groundwater systems and those which use both surface and groundwater.

1. **Surface Sources.**

a. Streams

b. Lakes

c. Infiltration galleries

2. **Groundwater Sources.**

a. Deep wells.

b. Horizontal Wells.

B. System capability to withstand drought impact.

1. **Surface Water Systems.**

Information concerning surface water flows and reservoir water levels is obtained from the United States Geological Survey, the Montana Department of Natural Resources and Conservation, the Department of Fish, Wildlife and Parks, public water supply systems and the department's own records. This information is

used to determine those systems that will suffer the greatest impact from drought.

2. **Groundwater Sources.**

Groundwater systems are encouraged to monitor (as much as possible) to determine if water levels are declining. Most groundwater systems do not have the capability to easily monitor water levels, so this will not provide a great deal of information.

The department obtains information on groundwater levels from the U.S.G.S., the Montana Bureau of Mines and Geology, and groundwater system users.

3. Those systems that appear to be most susceptible to drought impacts are more closely studied to determine their capability to withstand those conditions. This assessment will include a look at the possibilities of water use restrictions, alternate water sources and the potential health impacts that could occur.

II. **RESPONSE:**

A. **GENERAL RESPONSES.**

The DHES will work with public water supplies, local health departments and other agencies to minimize the impact of drought upon public health and to assure the provision of potable water to the customers of impacted areas.

Services provided by DHES would include:

1. Information on water conservation techniques to make the best use of a limited resource.

2. Advice on use of alternate sources and options for obtaining additional water.

3. Treatment alternatives to assure safe water.

4. Assistance in preparing and releasing notices for the press.

When necessary the DHES, in conjunction with Disaster and Emergency Services, may utilize the state's emergency water disinfection and filtration units to provide potable water.

B. **LEGAL AUTHORITY**

In the event of an imminent threat to public health, the department may require a public water supply to take special measures to protect public health (ARM 16.20.277). Those special measures would most often be the implementation of severe water use restrictions in order to maintain positive pressures in the distribution system and provide adequate water for domestic uses. Where contamination appears to be a risk, boil orders may be issued.

C. **RESPONSE CHECKLIST FOR DHES**

The following checklist includes the contacts, phone numbers and drought responsibilities for the Department of Health and Environmental Sciences.

Response Area	Primary Contact	2nd Contact	Phone No.
Public Water Supply	Dan Fraser	Jim Melstad	444-2406
Surface Water Quality (algae blooms, etc.)	Abe Horpstad	Loren Bahls	444-2406
Groundwater Quality	Fred Shewman	John Arrigo	444-2406
Sewage Problems	Fred Shewman	Kevin Keenan	444-2406

DEPARTMENT OF LIVESTOCK ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

PLEASE REFER TO THE

DEPARTMENT OF AGRICULTURE ANNEX
TO THE MONTANA DROUGHT PLAN
FOR DEPARTMENT OF LIVESTOCK
RESPONSE AND ASSESSMENT

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION
ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

The following is a compilation of information that will help individuals and local governments deal with the effects of the drought.

I. MODIFICATION OF IRRIGATION WITHDRAWAL SYSTEMS.

In order to reach their water supply during periods of drought, irrigators may need to extend their diversion systems further into the river channel. Irrigators should be aware of the following regulations if drought conditions could demand modification of their diversion systems.

A. 404 Permit or Section 10 Permit

Administered by: U. S. Army Corps of Engineers

Purpose: To regulate the discharge of dredged or filled materials within the ordinary high-water marks of rivers, streams, lakes and wetlands.

1. Under Section 404, Clean Water Act, 323.4(3), 33 CFR, on any Non-Section 10 Waters (see below), discharge of fill material associated with siphons, pumps, headgates, wingwalls, weirs, division structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are exempt and no Department of Army permit is required.
2. On Section 10 waters (the mainstem Missouri, the mainstem Yellowstone, and the mainstem Kootenai, all of which are navigable rivers), a Section 10 permit may be required depending on the degree of alteration. Otherwise, the need for the permit may be waived, or a maintenance exemption may be granted.

Contact: Bob McInerney, Corps of Engineers, Helena, 444-6670.

B. **"310" Permit Required Under the Montana Natural Streambed and Land Preservation Act**

Administered by: Local Conservation Districts

Purpose: To regulate activities which could alter the natural state of river and stream beds and banks.

Special Notes: Any such activity should be brought to the immediate attention of the Local Conservation Districts or the Department of Fish, Wildlife and Parks field offices (must also review the plans) for a prompt determination of whether a 310 permit is needed (regulation may vary by county).

Contact: Local Conservation District Board. Other contacts include Al Wipperman, DFWP, Helena, 444-5667; and Ray Beck, DNRC, Helena, 444-6667.

C. **Exemption for Surface Water Quality Turbidity Standard (3A Permit)**

Administered by: Montana Department of Health and Environmental Sciences.

Purpose: To allow an activity to exceed water quality standards.

Special Notes: This authorization is handled as part of the "310" permitting process (see "B" above). However, if for some reason a "310" permit is waived or not granted, a 3A turbidity exemption permit must be obtained separately.

Contact: Ken Chrest, DHES, Helena, 444-2406.

D. **State Water Use Permit**

Administered by: Montana Department of Natural Resources and Conservation.

Purpose: To authorize and record water uses throughout the state.

Special Notes: To maintain or rehabilitate an irrigation diversion system, an irrigator may not have to file an application for a change of authorization. However, if the point of diversion, place of use, purpose of use or place of storage, will be different than that noted on the original water use permit, or claimed existing water right a change authorization may be necessary.

Contact: DNRC Water Rights Bureau Field Office Managers or Ron Guse, DNRC, Helena, 444-6630.

II. WATER CONSERVATION INFORMATION

One of the functions of DNRC is to provide information to the public on other agency programs designed to assist in water conservation efforts. Following are two organizations which provide such assistance.

A. The **Soil Conservation Service** offers technical assistance on irrigation water management for individual operators throughout the state, including analyses of how both structural improvements (such as installation of gated pipe) and operational improvements (like irrigation scheduling) can extend limited water supplies. Persons interested in this assistance should contact the SCS office in their conservation district.

B. The **Cooperative Extension Service** at Montana State University in Bozeman has publications dealing with agricultural water conservation. They include: **Irrigation with Limited Water Supplies.**

improving the timing of irrigation applications so that less water can be used without adversely affecting crop yields. The publication is available from:

Cooperative Extension Mailroom
Montana State University
Bozeman, MT 59717

In addition, local County Extension Services can provide a USDA publication entitled, **"Water Conservation Checklist for the Home"** which offers suggestions on how to reduce water use by household appliances and in lawn and garden care. Additional useful publications may also be available from local County Extension Service offices.

III. WATER RIGHTS INFORMATION

As the effects of the drought on surface and groundwater resources become more pronounced, an increase in water rights conflicts can be expected. Appropriators should be aware of the options available to them in dealing with these conflicts. For example, cities and towns are given the power under 7-13-4405, MCA, to condemn other water rights to secure water supplies for municipal and domestic water systems. In addition, appropriators should be aware that under certain conditions the district court has the power to appoint water commissioners to enforce water rights on drainages.

Information on the correct procedures to follow in pursuing these and other resolutions to water right concerns can be provided at DNRC Water Rights Bureau Field Offices in nine locations across the state. These offices and the counties covered by each are listed below:

Billings

Keith Kerbel, Field Manager
1537 Avenue D, Suite 105
Billings, MT 59102
657-2105

Counties: Big Horn, Carbon, Stillwater, Sweet Grass, Treasure and Yellowstone.

Bozeman

Scott Compton, Field Manager
1201 East Main
Bozeman, MT 59715
586-3136 or 586-3137

Counties: Gallatin, Madison and Park.

Glasgow

Roy Jones, Field Manager
P.O. Box 894
110 5th Street South, Room 106
Glasgow, MT 59230
228-2561 or 228-8706

Counties: Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan and Valley.

Havre

Bob Larson, Field Manager
P.O. Box 1828
1708 West 2nd Street
Havre, MT 59501
265-5516 or 265-5517

Counties: Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton and Toole.

Helena

T. J. Reynolds, Field Manager
1520 E. 6th Avenue
Helena, MT 59620
444-6695

Counties: Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell and Silver Bow.

Kalispell

Chuck Brasen, Field Manager
P.O. Box 860 (Zip 59903)
3220 Highway 93 South
Kalispell, MT 59901
752-2288 or 752-2843

Counties: Flathead, Lake, Lincoln and Sanders.

Lewistown

Sam Rodriguez, Field Manager
P.O. Box 438
613 Northeast Main Street
Lewistown, MT 59457
538-7459 or 538-7012

Counties: Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum and Wheatland.

Miles City

Walter Rolf, Field Manager
P.O. Box 276
5 North Prairie
Miles City, MT 59301
232-6359

Counties: Carter, Custer, Fallon, Powder River, Prairie, Rosebud and Wibaux.

Missoula

Mile McLane, Field Manager
P.O. Box 5004
Holiday Village Professional Offices
Missoula, MT 59801
721-4284

Counties: Granite, Mineral, Missoula and Ravalli.

DEPARTMENT OF STATE LANDS ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

I. PURPOSE:

The purpose of this annex is to provide guidance for state and local governments as to the actions the Department of State Lands will undertake to support the Montana Drought Plan.

II. SITUATION:

Drought conditions have a major impact on Departmental activities and responsibilities. Extended periods of drying exacerbate the wildland fire suppression responsibilities the Department has on the state, private, and federal land it is responsible for protecting. Drought conditions also significantly affect the management, production, and returns it receives from the 5 million acres of state owned land it manages for grazing, agriculture, and fore production.

III. ASSESSMENT SYSTEM:

The Department's assessment responsibilities are mainly oriented toward the prevention and suppression of wildland fires. Specifically, the Drought Plan requires the Department to identify those areas of extreme fire danger due to drought conditions and to provide continual assessments of the capabilities, resources, and sources of assistance available both within and outside the agency.

A. WILDLAND FIRE DANGER:

All the wildland firefighting organizations, including the Department of State Lands, utilize the National Fire Danger Rating System to assess and monitor the conditions contributing to

extreme fire danger throughout the state. The fire danger rating system is composed of several indexes which describe among other things, the probability of a fire start, the expected intensity in BTU's of the fire, and the difficulty to be expected in the control of the fire. These indices are derived and updated daily from current weather and fuel moisture information gathered at over 90 reporting stations in Montana. The reporting stations feed their local information into a fire computer system that provides the Department with current fire danger information in almost any location in the state. This information, coupled with twice daily fire weather forecasts from the National Weather Service, provides the Department with the information necessary to plan and react to wildfire occurrences.

In addition to monitoring the conditions contributing to fire occurrences, the Department also monitors the availability and usage of personnel and equipment both within the Department and in other wildfire fighting organizations. A daily situation report on the usage and availability of all firefighting equipment and personnel is accumulated and provided to all firefighting organizations.

Fire danger information is available on both a statewide and local basis. The Department's Fire Coordination Center in Missoula is the primary source and coordinator of fire planning and suppression matters within the Department. In addition, the Department's field offices can provide specific fire information on a regional basis. A list of the Departmental offices and phone numbers are attached.

B. **DROUGHT IMPACTS ON STATE OWNED LANDS.**

The Department leases most of the 5 million acres of state-owned land it manages for grazing and agriculture. Extended periods of drought reduce the income producing potential of these lands for the school trust fund as well as contribute to a long term decline in the productivity of these lands. Through annual field evaluations and contacts with lessees, field offices are aware of the general condition and problems concerning state owned lands.

IV. **RESPONSE SYSTEM:**

In the Montana Drought Plan the Department is responsible for minimizing the impact of wildfires through the wildland fire prevention, presuppression, and suppression programs and activities it conducts. This will be accomplished through ongoing fire prevention, presuppression, and suppression activities which the Department conducts.

The Department is also charged by statute with the wise resource management of the school trust lands. This is accomplished through ongoing field activities aimed towards reducing drought related impacts on state owned lands wherever possible.

A. **PREVENTION:**

Prior to the start of the fire season the Department, along with other wildland fire fighting organizations, initiates a fire prevention planning effort aimed at reducing preventable fires. As drought conditions persist, the plan is updated and active fire prevention activities initiated. Some of these include:

1. Usage of press releases to notify the public of fire danger.

2. Delineation of high hazard areas and patrolling, posting, and restricting access into these areas.

3. Cancellation of open burning permits and requesting the public to voluntarily cease operations involving the use of fire.

4. Increasing the cooperation and coordination of activities with other fire protection agencies and county governments.

B. **PRESUPPRESSION:**

As drought and fire conditions worsen, the Department will initiate an increasingly active fire detection and response system aimed at rapid detection and deployment of firefighting assets. Increasing the frequency and duration of aerial detection flights and prepositioning of personnel and equipment to high hazard areas help reduce the response time to initial attack fires that do occur. The preparedness and readiness of Department personnel and equipment will also be stepped up as conditions worsen.

C. **SUPPRESSION:**

Suppression activities include all the work involved in the initial attack, containment, control, and extinguishing of a fire. The Department will utilize all the resources at its disposal to minimize the impact of wildfire.

V. **RESTRICTIONS ON FOREST ACTIVITIES:**

The Department may, through public proclamation, designate areas of high fire hazard and request all persons, firms, or corporations present or engaged in any activity in the areas to voluntarily cease operations or to adjust working hours to less critical periods of the day. In the

event such a request is refused, the Department may issue a written order directing compliance.

VI. CLOSURE OF AREAS DUE TO FIRE DANGER:

When drought conditions exist that exceed the normal seasonal build-up, endanger life and property, and are predicted to continue; and it is questionable if local forces will be able to cope with additional fires, and the county has initiated active fire prevention, detection, pre-suppression and suppression programs, then a fire closure may have to be instituted to reduce human and other resource losses.

Under 87-3-106 MCA the Governor, upon recommendation of the Department, may close an area or county to trespass because of fire danger, and that area is automatically closed to hunting, fishing, etc., and remains closed as long as the fire closure remains in effect.

Closures are very hard to administer and, therefore, careful consideration must be given to all aspects of a closure prior to requesting one. A careful analysis of fire conditions and weather trends, followed by close coordination between all agencies and strong local actions to enforce the closure, are necessities.

Requests for a fire closure must come from the governing body of the county. Requests received from other sources will be referred back to the County Commissioners for their recommendation. This request should be submitted to the Department for its consideration prior to being forwarded to the Governor. In analyzing a request for closure the Department, before recommending to the Governor that an area be closed due to fire danger, will determine whether: the county has initiated an

active fire prevention, presuppression, and suppression program, that extreme burning conditions exist that exceed the normal seasonal buildup and endanger life and property and that these conditions are expected to persist, the county has taken actions to suppress previously occurring fires and appears unable to cope with additional fires, and that the county will enforce the closure if granted.

VII. **DROUGHT RELATED IMPACTS ON STATE OWNED LANDS:**

The Department will assist the lessees of state owned land with solving drought related problems on state lands. Technical assistance as well as cost share assistance is available for improvements on state owned lands. Resource development cost share assistance on new stockwater developments, range renovation projects and irrigation systems is normally available to state lessees on approved projects.

VIII. **CONTACTS FOR DROUGHT RESPONSE INFORMATION:**

The primary coordinator for drought response information in the Department is Randy Mosley, Administrator, Field Operations Division, Phone 444-2074. The primary contact for fire danger and wildfire situation information is the Department's Fire Coordination Center, Forestry Division, Missoula, Phone 728-4300. Other contacts for regional information are as follows:

OFFICE	LOCATION	PHONE
Northwestern Land Office	Kalispell	752-7994
Southwestern Land Office	Missoula	542-4200
Central Land Office	Helena	444-3633
Northeastern Land Office	Lewistown	538-5989

OFFICE	LOCATION	PHONE
Southern Land Office	Billings	259-3264
Eastern Land Office	Miles City	232-2034
Bozeman Unit Office	Bozeman	586-5243
Conrad Unit Office	Conrad	278-7869
Libby Unit Office	Libby	293-2711
Plains Unit Office	Plains	826-3791
Stillwater Unit Officer	Olney	881-2371
Swan Unit Office	Swan Lake	754-2301
Anaconda Unit Office	Anaconda	563-6078
Clearwater Unit Office	Greenough	793-5757
Hamilton Unit Office	Hamilton	363-1585
Glasgow Unit Office	Glasgow	228-2430

DISASTER AND EMERGENCY SERVICES DIVISION ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

I. PURPOSE:

This Annex identifies the responsibilities assigned to the Disaster and Emergency Services Division in the Montana Drought Plan. This Annex also discusses the procedures which will be implemented to fulfill those responsibilities.

II. ASSESSMENT:

Under the Assessment System the Disaster and Emergency Services Division has been assigned the following:

A. RESPONSIBILITIES:

1. Designate a Drought Coordinator to facilitate information flow.
2. Provide personnel and/or resources to provide information on drought.
3. Review the progress of impact assessments.
4. Ensure coordination between agencies working on drought-related problems.
5. Make recommendations to the Montana Disaster Advisory Council.

B. GENERAL TASKS:

1. Identify potential and existing drought-related problems.
2. Define impacts, response capacity and residual needs within the Division's area of expertise.
3. Report findings to the Montana Disaster Advisory Council.

C. SPECIFIC TASKS:

Assist and coordinate assessment activities, as needed.

D. **IMPLEMENTATION:**

1. The Administrator of the Disaster and Emergency Services Division will designate a Division Drought Coordinator who will facilitate the gathering and flow of drought-related information to other departments and to the Montana Disaster Advisory Council.
2. The Disaster and Emergency Services Division will review impact statements prepared by lead agencies, identify potential and existing problems, and offer recommendations to the Montana Disaster Advisory Council.
3. The Disaster and Emergency Services Division will identify areas with potential or existing emergency situations which exceed or may exceed the available local resources, then will coordinate, when necessary, the actions of other State agencies in responding to the emergency.

III. **RESPONSE:**

Under the Response System the Disaster and Emergency Services Division has been assigned the following:

A. **RESPONSIBILITIES:**

1. Address drought related problems through established programs and within assigned areas to lessen drought impact.
2. Promote water conservation practices.
3. Review response activities to determine effectiveness, to allow alternate more effective responses.

4. Make timely reports to the Montana Disaster Advisory Council and provide requested information and assistance to other State departments.

5. Make recommendations to the Montana Disaster Advisory Council on response activities.

B. **GENERAL TASKS:**

1. Utilize existing programs to provide drought response.

2. Provide a senior level representative to the Montana Disaster Advisory Council.

3. Identify and report unmet drought-related needs.

C. **SPECIFIC TASKS:**

Coordinate response to high priority emergency situations, including federally declared disasters.

D. **IMPLEMENTATION:**

1. The Administrator of the Disaster and Emergency Services Division or a representative of the administrator, will sit on the Montana Disaster Advisory Council and the Drought Task Force.

2. The Disaster and Emergency Services Division representative will report to the Montana Disaster Advisory Council, as requested, and will present information compiled through division programs.

3. The Disaster and Emergency Services Division will promote water conservation through local Disaster and Emergency Services coordinators by distributing appropriate literature and suggesting water conservation measures in communities and water districts.

4. The Division will review and coordinate emergency response activities to ensure effective response and will make recommendations to the Montana Disaster Advisory Council on possible response activities.

5. The Division Administrator will serve as a liaison between the Montana Disaster Advisory Council and the Drought Task Force.

DROUGHT TASK FORCE ANNEX TO THE MONTANA DROUGHT CONTINGENCY PLAN

The Drought Task Force consists of representatives of both public and private organizations whose memberships may be adversely affected by drought. The Drought Task Force is a long-term group whose focus on drought problems is proactive instead of reactive. Its goal is to assist in the development of long-term cooperative solutions to the problems posed by drought, and to assist in the formulation of remedies to those problems. To this end, it will encourage communications and cooperative conflict resolution between various water users.

The responsibilities of the Drought Task Force occur on two levels: First, in the short term for a specific period of drought; and second, on a long-term basis in order to develop an ongoing and continuous planning process for future years.

SHORT-TERM RESPONSIBILITIES

The focus for a specific period of drought is as follows:

(1) Become informed on those areas suffering the severest drought impacts. This includes identifying those areas that may become crisis areas before they reach the crisis level. In addition, the Drought Task Force, will gather pertinent data for the areas identified as crisis areas.

(2) Enlist participation from a broad base of user groups in the provision of information to the task force.

(3) Assist state government in the pursuit of solutions in local drought crisis-areas and in the identification and initiation of assistance to local areas in addressing drought-related problems.

(4) Provide Disaster and Emergency Services Division with periodic reports of task force efforts in responding to drought-related problems.

(5) Provide the public with periodic updates of the activities of the Drought Task Force through the issuance of periodic news releases.

(6) Provide citizens with information on response to drought-related problems.

(7) Identify appropriate people to assist in the resolution of drought-related conflict.

LONG-TERM RESPONSIBILITIES

The Drought Task Force's long-term responsibilities focus on anticipating drought impacts well before they occur. This necessitates continuous communication, not only during the spring and summer months, but also during the fall and winter. The goal is to replace crisis response with long-term planning grounded in communication and cooperation among the various water user groups. To achieve this goal the Task Force will conduct the following activities tasks:

(1) Using available data select basin for concentrated drought responses.

(2) Request the appropriate state agencies provide data to the task force on selected basins on the following topics:

(a) Moisture and runoff conditions and projections

(b) Municipal and industrial use

(c) Agricultural use

(d) Fish and wildlife needs

(e) Recreational use

(f) Other water supply and use issues

(3) With the assistance of the State, assess the local interest in the formation of local drought task forces for selected basins. Where there is significant interest in the formation of local drought task forces, the Drought Task Force, with the assistance of the Montana Disaster Advisory Council, state, and local governments, will organize local drought task forces. The local task forces shall consist primarily of local representatives, with help, when needed, from the State Drought Task Force and state agencies.

(4) The local task forces shall meet to further define the drought conditions and effects which are likely in their areas. After defining the problem, the local task forces will develop specific drought strategies (e.g. enforcement of priorities, rationing, voluntary conservation, purchases or leases of water, exchange agreements, distribution of flow reduction devices, progressive pricing structures.)

(5) The Drought Task Force will solicit the cooperation of the state in providing technical assistance to the local task forces. The Drought Task Force will work toward the establishment of a team of individuals to assist local task forces in managing water use issues in their basins.

(6) Regularly report to the Disaster Montana Advisory Council and the Disaster and Emergency Services Division on activities throughout the year.